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Addresses

TROPICAL DISEASES—AMERICA'S OPPORTUNITIES AND OBLIGATIONS *

JAMES B. McELROY, M.D.
MEMPHIS, TENN.

The race for empire from its beginning has suffered more from disease and pestilence than from the implements of war. This fact has furnished many examples of stimulation to medical research. None is more striking than that given to the study of the diseases of warm climates as a result of the struggle of the nations for the possession of the tropics.

The close of the nineteenth century found the work of the colonizing powers practically at an end, in that nearly all of the available territory of the earth had been entered on and occupied. With these acquisitions, however, the mother countries realized that their work had but begun. To bring these great tracts of earth under the dominion of civilization, to develop their abundant resources, to give peace and prosperity to their fertile soils, they wisely realized that another foe had to be conquered—realized that they must learn the causes, nature, and means of prevention of the diseases which have always formed the greatest barrier to the colonization of these countries.

On August 27, 1897, after ten years of laborious research, under the most disadvantageous circumstances, success crowned the efforts of a hero and scientist—a success which well might inspire his poetic nature to sing:

> "This day relenting God
> Hath placed within my hand
> A wondrous thing; and God
> Be praised. At His command
>
> Seeking His secret deeds
> With tears and tolling breath
> I find thy cunning seeds,
> O million-murdering Death.
>
> I know this little thing
> A myriad men will save.
> O Death, where is thy sting,
> Thy victory, O Grave?"

The discovery of Ross that the mosquito is the intermediate host of the malarial parasite, and its confirmation and extension by other distinguished scientists may be said to have stimulated renewed interest in the onslaught on tropical diseases.

With the dawn of the twentieth century we see special institutes established and commissions formed and sent out for the study of these diseases. At the close of the first decade of this work, which has resulted in epoch-making discoveries which vie with those of Jenner and Pasteur; at this meeting, when the American Medical Association is honored by the presidency of Colonel Gorgas, it seems not inappropriate to speak of "Tropical Diseases and America's Opportunities and Obligations" toward the same, notwithstanding the fact that the subject has been dealt with in several excellent addresses recently.

Sir Patrick Manson has pointed out that the "peculiarities of tropical diseases are etiologic rather than pathologic." Passing those conditions, such as insolation, heat-syncope, siriasis and tropical neurasthenia, which are the direct result of climatic and meteorologic influences found in warm countries, certain diseases are encountered which are the result of toxic substances taken in with the food, peculiar to these climates. As example of these may be mentioned ergotism, lathyrism, pellagra, and possibly beriberi.

It has also been customary to include, conventionally, in the list of tropical diseases certain bacterial infections, such as Malta fever, bubonic plague, leprosy, bacillary dysentery and cholera, because here are found social and hygienic conditions which are conducive to their prevalence. These diseases, however, can flourish in any climate and, therefore, have no real claim to be regarded as strictly tropical diseases.

The most important factor which determines the geographic distribution and limitation of tropical diseases is the fact that "certain pathogenic agents either require high atmospheric temperature for their successful passage from host to host or require an animal intermediary which flourishes only in high temperatures" (Manson). As examples of the former may be mentioned uncinariasis, amebic dysentery and certain parasitic skin diseases; of the latter, malaria, trypanosomiasis, African tick fever, filariasis, yellow fever and possibly dengue.

While this fact of high temperature is found at its best in the tropics, these diseases are by no means confined to the equatorial zone, extending around the earth between the tropics of Cancer and Capricorn. The same condition is found in subtropical regions, and in the temperate zone during the summer season. Our increasing knowledge of these diseases is demonstrating their prevalence in these regions.

So keen has been the interest; so great have been the achievements in tropical diseases during the last decade, that it will manifestly be impossible for me to do more at this time than to call attention to some of the more important advances which have been made in this domain of medicine.

The report of the hitherto unsuspected occurrence of pellagra in the United States has excited widespread interest here in this disease, which has proven and still proves a veritable scourge in Italy and other European countries. In these countries pellagra is described as a chronic disease characterized by an erythematous exan-

* Oration on Medicine, before the Section on Practice of Medicine, at the Sixtieth Session of the American Medical Association at Atlantic City, June 8-11, 1909.

them, gastrointestinal phenomena and nervous and psychic disturbances. It is generally regarded as an intoxication due to the using as food the products of unsound Indian corn. "Possibly the specific toxic products are formed by the action of some bacterium on maize which has been cut while immature and stored in damp condition" (Novy). In view of the extensive use of the proverbial "hoe-cake" as food in the South, it is rather surprising that pellagra should have so long escaped the notice of physicians. The report of its endemic occurrence in Alabama, North Carolina, South Carolina, Georgia, Mississippi, Florida and Texas, makes the study of the disease a matter of great importance.

Notwithstanding the immense amount of work which has been done on beriberi, the specific cause of the disease remains unknown. The micro-organismal and food theories each still have their advocates. It may be noted that Frederick Pearce, from clinical and pathologic observations on epidemics of beriberi and epidemic dropsy in Calcutta and Howrah, strongly suggests the identity of these diseases.

The clinical syndrome which is commonly known as dysentery has been shown to be due to three distinct diseases; amebic dysentery, due to *Entamœba histolytica;* bacillary dysentery, due to *Bacillus dysenteriæ* (Shiga, Flexner and Kruse); and catarrhal dysentery, due to the action of one of several bacteria which produce a catarrhal condition of the large intestine (Strong). This knowledge has furnished the basis for the more intelligent prevention and treatment of these diseases.

Studies on Malta or Mediterranean fever have shown that this disease, capable of producing an immense amount of invalidism, has a wider distribution than was formerly supposed. Mainly through the researches carried on in 1904-05-06 by a commission appointed under the auspices of the Royal Society of London, our knowledge of the disease has been distinctly advanced. It has been shown that the *Micrococcus melitensis* is constantly present in the blood of patients suffering from the disease; that it escapes from the body chiefly through the urine; that it is found at times in the urine of perfectly healthy individuals. It has also been demonstrated that domestic animals (chiefly goats) are frequently infected and that the disease is largely if not entirely acquired by the use of the milk of these animals as food. A distinct advance in the therapy of the disease has been claimed by Bassett-Smith from the use, in chronic cases, of a vaccine prepared from cultures of the organism isolated from the spleen during life.

The march of the "black death" has advanced throughout the civilized world, and at the beginning of this decade we see it lodged in Asia, Africa, Europe, Oceania, North and South America. Fifty-one countries of these continents have been infected and millions of lives have been destroyed. Hence it is that the brilliant achievements with respect to the conveyance of the *Bacillus pestis* should rank with the epoch-making discoveries of this period.

Bannerman has pointed out that Simond in India was the first to suggest the flea as the carrier of the disease. His work, however, was discredited by the first plague commission. Captain Liston, an assistant to that commission, seeing the possibilities of this theory, continued investigations along this line, so that when the second plague commission was sent out in 1905, this method of transmission seemed the most worthy of investigation. Their carefully planned experiments and painstaking execution of the same have resulted in the following conclusions:

1. "Pneumonic plague is highly contagious, but being rare (less than 3 per cent. of all cases) plays a very small part in the spread of the disease.

2. "Bubonic plague in man is not infectious and is entirely dependent on the disease in the rat.

3. "The infection is conveyed from rat to rat, and from rat to man, solely by means of the rat flea.

4. "Plague is usually conveyed from place to place by rat fleas brought by people in their baggage or on their persons" (Bannerman).

The outbreak of plague on the Pacific coast in 1907 was suppressed by the efficient work of the United States Public Health and Marine-Hospital Service under the direction of Dr. Rupert Blue. Still, in view of the difficulties in certain areas attending the destruction of rats and rat fleas, the question of protective inoculation against plague has been the subject of extensive investigations. The researches of Strong in Manila has resulted in the production of a vaccine from attenuated plague bacilli which promises to be of great practical importance.

One of the most far-reaching results which has come about as a result of the increased interest in tropical diseases is the importance which attaches to protozoology and helminthology as fundamental medical sciences. The researches of Laveran, Theobald Smith, Councilman, McCallum, Ross, Dutton, Novy and others stimulated men like Calkins, Minchin, Stiles, Mesnil, Nuttall, Schaudinn, and Grassi to study more carefully the protozoa. Great principles have been announced, the influence of which on medicine it is difficult to estimate.

By study of these organisms Hertwig has been able to announce the Kern plasma relation theory, Goldschmidt the chromidial apparatus, Schaudinn the nuclear dimorphism—theories and principles which offer much toward the elucidation of the long vexed questions of the physiology and pathology of the cell. Weissman's doctrine of the immortality of the protozoa has been overthrown by the fact that sexual reproduction is necessary at some period of the life cycle to rejuvenate these organisms "depressed" by vegetative activity or otherwise.

A knowledge of these life cycles has been shown to be necessary for a proper classification of these organisms, and has established close relations between phyla heretofore supposed to be widely separated.

Of greater importance in so far as tropical diseases are concerned are the results of the study of protozoa and helminths as pathogenic agents. Indeed, Sir Patrick Manson has said that in the study of tropical diseases "the student's attention is confined almost entirely to protozoa and helminths, to the special vectors or media of these organisms, to their pathologic effects, and to the prophylaxis and treatment of the diseases they give rise to."

The observations of Lösch, Kartulis, and Councilman and Lafleur had long ago established the etiologic relationship of amebas to a characteristic form of dysentery prevalent in tropical and subtropical regions and frequently associated with abscess of the liver. These observations have been confirmed by numerous observers. Much confusion, however, has existed as to the nomenclature and taxonomic position of these organisms, and even some skepticism as to their pathogenicity. Cassi-

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gandro and Barbigallo had shown that the amebas occurring in man and fresh water amebas presented sufficient difference to justify placing the former in a separate genus—entamœba.

In 1902 and '03 Schaudinn from morphologic and biologic differences, as well as from their effect on animals, was able to separate them further into two species—*Entamœba coli*, a harmless commensal of the intestinal tract, and *Entamœba histolytica*, the pathogenic agent of amebic dysentery. In 1904 Stiles summarized the various views as to the relationship of disease and amebas found in the intestine of man justifying the nomenclature of Schaudinn for those who believe in a harmless and pathogenic species. In 1908 Craig, after a most exhaustive study of the subject, wholly confirms the views suggested by Schaudinn.

It must be noted that there are still some observers who hesitate to accept the division of the entameba into pathogenic and non-pathogenic forms. These differences of opinion would seem to emphasize the desirability of relying on the full life cycle of these organisms under natural conditions rather than morphologic differences observed *in vitro* for purposes of classification.

Among the most interesting advances of this period are the discoveries which have removed trypanosomiasis far beyond the mere economic importance which it heretofore had maintained. The discovery of a peculiar, wormlike, actively motile body in the blood of a patient by Forde in 1901 and named *Trypanosoma gambiense* by Dutton stimulated investigations with respect to this organism as a pathogenic agent. The first result was the discovery of a trypanosomatic fever of man, which came about through the investigation of Dutton and Todd in 1902, under the auspices of the Liverpool School of Tropical Medicine. Shortly afterward the discovery, by Castillani, of this organism in the cerebrospinal fluid of a patient suffering from sleeping sickness led to the discovery by Bruce and others that this disease is caused by the *Trypanosoma gambiense* and that trypanosomatic fever is the first stage of sleeping sickness.

The *Glossina palpalis* has been shown to be the chief agent by which the organism is transmitted. In spite of efforts to show that the trypanosome undergoes biologic development in the tsetse fly which would be expected from what is known of the life-history of other hematozoa, the insect intermediary seems to be only a mechanical vector. Of other advances made in trypanosomiasis, the successful cultivation of these organisms *in vitro* by Novy and his associates is of importance as furnishing a method of studying these organisms. The early diagnosis of sleeping sickness by gland puncture is of the greatest importance for purposes of prophylaxis and treatment.

The rapid spread of the disease is a striking illustration of the "disseminating influence that modern travel and means of communication have on diseases formerly confined to limited areas." Advances have also been made with respect to the prophylaxis and treatment of the disease. As a result of the work in Zambesi in 1907 and 1908 by Allan Kinghorne and R. Eustace Montgomery the following means for preventing the spread of the disease have been suggested—control of native movements, segregation of cases, removal of villages from dangerous zones, clearing, education of the natives, personal prophylaxis destruction of the tsetse flies, their larvæ and pupæ. Koch further suggests the destruction of crocodiles, inasmuch as the tsetse flies subsist almost entirely on the blood of these reptiles in the neighborhood of the lakes. Atoxyl, an anilid of metarsenious acid, supplemented by antimony, promises to be of service in the treatment of the disease.

The spirochetes, a genus closely allied to the trypanosomidæ, have been the subject of much study both from the academic and practical side. The discovery that African relapsing fever is caused by a spiral organism which is conveyed from one individual to another by means of the tick *Ornithodorus moubata* (Murray) and the spirillæ of American fowls conveyed by a species of argas, as well as the already known relation of a spiral organism to European relapsing fever, and its possible conveyance by an arachnid, raised the question whether or not these organisms should not be included among the protozoa.

The brilliant researches of Novy and Knapp and Breinl would seem to clear up to some extent the confusion which has existed with respect to the spirochetes. It seems to have been shown that these spiral organisms, the Spirillum duttoni, and the Spirillum recurrentis are different species belonging to the bacteria and giving rise to different kinds of relapsing fever in various parts of the world.

These studies have aroused much scientific interest, as at first glance they would seem to furnish an exception to the general law enunciated by Stiles in 1901, that "those diseases which are dependent on insects or other arthropods for their dissemination and transmission are caused by parasitic animals." It does not seem conclusively proven that these arthropods are biologic transmitters of these diseases; that they are not necessary for the development of the spirilla, as are the anopheles for malaria or the *Stegomyia callopus* for the hypothetical organism of yellow fever. The work of Ricketts on Rocky Mountain Spotted Fever is also interesting in this connection, in addition to being a work of great merit.

Malaria, of all tropical diseases, is the most widespread, the most disastrous in its effects, and the one concerning which our knowledge was most complete at the beginning of this period. Hence it is that the application of this knowledge in the prevention of the disease has attracted the most attention. It should be noted, however, that the introduction of eosinated methyl azure stain and thick dehemoglobinized smears have facilitated the diagnosis of malaria. Schaudinn's discovery of the parthenogenetic cycle of the macrogametocyte in the blood of the vertebrate host furnishes a long desired explanation of the relapses which so frequently occur in this disease. Craig's more recent work on latent malaria should also be noted.

Much work has been done in various regions on the epidemiology and prophylaxis of malaria. Worthy of special notice are the researches and efforts of "The Society for the Study of Malaria in Italy." Professor Celli, in a report on this work, concludes that the campaign against malaria should include two methods concurrently—the one directed to destroy, or at least render inoffensive, the mosquito which inoculates man with the parasite; the other directed to destroy with specific means and with general means these parasites in the human blood.

The recent excellent articles of Deaderick of Arkansas well present the present state of our knowledge as regards blackwater fever. While the results of investigators in various parts of the world seem to show the

relation of malaria and quinin to the disease, the immediate cause of the condition which determines the increased hemolysis remains to be found out. The results of the researches of the medical commission of the United States Army to investigate the cause and mode of transmission of yellow fever are well known. And the application of this knowledge has been successful in the control of many outbreaks of the disease.

The work of E. H. Ross in Egypt, and Craig and Ashburn in the Philippines, would seem to indicate that dengue is dependent on the mosquito for its spread, and, therefore, another trophy is added to the war waged against these insects.

It has been shown that the presence of intestinal parasites has a marked influence on the mortality of other diseases, and the advances with respect to helminths as pathogenic agents are scarcely less notable than those with reference to the protozoa. Of the long list, time permits reference only to ankylostomiasis. This disease has been shown to be of wide distribution in all tropical and subtropical countries and wherever found is of the greatest importance from the economic as well as from the standpoint of public health. New hookworms have been discovered, their mode of infection has been determined, and much has been added to our knowledge of their clinical and pathologic manifestations. The ankylostoma duodenale has been shown to contain a hemolytic substance, and efficient methods of prophylaxis and treatment have been worked out. With all this, however, the work on hookworm disease may be said to have only begun.

This short and imperfect review serves to emphasize the great interest which has been manifested all over the civilized world in the study of tropical diseases during the past decade; to emphasize how vital the thorough study of these diseases is to the progress and art of medicine. There is already abundant cause for praise of the results which have been achieved, but it would seem that they are only evidence of what is to follow.

Without disparagement of the work of every and all nations concerned, we can with pleasure note the prominence of the influence of English thought in this as in other branches of medicine, and may be permitted to contemplate with pardonable pride the triumphs of America in this field.

The philanthropic spirit which moved the United States to engage in war to relieve a down-trodden people from the consequences of despotism was also sufficient to stimulate efforts to overcome a more formidable tyrant; to free these people from disease and pestilence. The establishment of a biologic laboratory in Manila as a part of the government laboratory and the high class of work which has emanated from this laboratory have reflected great credit on American medicine. The record of ten years of sanitation in the Philippines, of the scientific methods by means of which diseases have been combated, reads like a romance and justifies the statement of Musgrave that "America has made Manila one of the cleanest and healthiest and most attractive cities under the flag."

The discoveries with respect to yellow fever by the commission under the auspices of the War Department ranks as the greatest triumph of modern medicine since the discovery of vaccination against smallpox. As regards the triumph of America in the canal zone, it has been said that "of one credit history can not rob the United States. Among much good and evil it must record that it was under the American administration that the knowledge and resources of modern medicine were applied to the hygienic redemption of the once noisome isthmus. Such fruits of labor in this direction have already been gathered that they promise to rival as a worthy monument of American achievement the canal itself." Leigh.

It is proper that we recognize the ability, revere the heroism and extol the genius of those who have brought about these and other triumphs. The names of no greater heroes will be recorded in the annals of American history than the names of Reed, Carrol and Lazear. Carlisle has said that genius is "infinite capacity for taking infinite pains." Measured by this standard the work of Colonel Gorgas in Cuba and Panama must stamp him as a genius whom we are proud to honor.

While we felicitate ourselves over this foreign missionary spirit and rejoice in the inestimable benefits which it has developed, we are led to inquire if the conditions are not such as to offer opportunities and impose obligations to increased activity in the field of home missions? If we consider only the great economic losses, the suffering, deaths, and race deterioration which amebic dysentery, malaria, and uncinariasis visit on this country, there can be but one answer. Unfortunately the vital statistics do not give a proper conception of the prevalence of amebic dysentery in the United States. Its wide endemic occurrence is, however, well known through the writings of Harris, Dock, Jelks, and others. Professor Osler says, "It is the most common variety of dysentery throughout the United States. It is endemic, the cases sometimes increasing to such an extent as to form an epidemic." Boggs states that the records of the Johns Hopkins Hospital show 182 cases in that institution from 1889 to 1908, the vast majority coming from the state of Maryland. He also points out that the large number of cases of abscess of the liver in the records of some southern hospitals would indicate its wide prevalence. The economic importance of amebic dysentery, its chronicity, its resistance to treatment, as well as its tendency to serious complications, furnish a rich opportunity for investigation.

The prevalence of malaria is too well known to require discussion. Attention has often been called to its economic importance to a large section of this country. Woldert has shown that it cost the state of Texas in 1900 in loss from labor alone $533,320. Glenn W. Herrick, some years ago, in writing on the effect of malaria on agriculture, has convincingly shown the enormous losses which the disease entails on the South. More recently Howard, in a bulletin on the economic losses to the people of the United States through insects that carry disease, estimates on a very conservative basis that malaria produces 12,000 deaths and 3,000,000 cases of fever annually. He further states: "Accepting this as a basis and including the loss through death, the cost of medicine, the loss to enterprises in malarious regions through the difficulty of securing competent labor, and other factors, it is safe to place the annual loss to the United States from malarial disease under present conditions at not less than one hundred millions of dollars." To say nothing of the physical suffering and deaths, the losses from this disease alone make that from hog cholera, Texas cattle fever, and the boll weevil combined look exceedingly small. The above estimate of Howard does not include the retardation to development of certain regions on account of malaria. No region on earth more urgently invites the "triple

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alliance of the doctor, drainage and agriculture" than the great Mississippi Valley designated by one of its most gifted sons as "the cornucopia of the world." History, ancient and modern, furnish ample evidence of the baneful influence of malaria on mental and physical development.

Through the researches of the United States Public Health and Marine-Hospital Service, of the Porto Rican Commission, as well as of practitioners in the endemic areas, we have learned of the great economic importance of the hookworm disease. According to the report of Surgeon General Wyman, the recent researches of Stiles have shown that 12.6 per cent. of the employés of the cotton mills of the South are affected with uncinariasis; that of this class 13 to 18 per cent. of those of maternity age are in a condition which prevents them from properly nourishing babes; 5.8 to 20 per cent. of the males of possible military age are in a condition which would materially decrease their military efficiency; 48.1 per cent. of the children are suffering from an anemia-producing disease which would naturally inhibit their usual capacity for study. These figures serve to emphasize the truth of the statements of Allen J. Smith, who, writing on this subject in 1904, said, "All through the districts of our southern states infested by the American hookworm there exists a class of persons notorious for their unprogressiveness, lack of ambition, application and effort, thin, sallow, unhealthy look, cadaveric appearance, and uniform poverty in the midst of natural fertility and plenty." He further states: "These families are usually prolific, but with parents of the type mentioned there are bound to arise numerous causes for fatality among the children. Probably many in childhood die from direct and indirect effects of uncinariasis. Of those who live a large, proportion suffering in some degree short of fatality from the same parasite, grow up stunted in mind and incapable of physical effort, without incentive, hopeless, unequal to real exertion, branded as lazy and wearing the mark without care or shame. These pallid, spindle-legged, pot-bellied, and always dirty and unkempt children grown to manhood and womanhood may scarcely hope to breed a stronger race than themselves; and thus, generation after generation, from originally strong and virile progenitors, families recede and eventually die out."

These are but examples of the opportunities afforded in tropical diseases at home. To these may be added the menace from bubonic plague, the ever-constant danger from yellow fever, and the probable endemic existence of other of these diseases which increased knowledge is demonstrating. Our increasing commerce with the tropics and the better facilities for communication with the same must inevitably increase these opportunities.

It follows as a natural corollary that these present and growing opportunities for the study of tropical diseases must impose the obligation of affording better facilities for teaching them and research work in them. If they are of such importance as we have indicated, it would seem that more time should be given to them in the curricula of our medical schools than is at present devoted to them. Even with this, the time has arrived when to keep in the front rank of the armies which are moving on these common enemies to our health and prosperity, the obligation rests on us to follow the examples of England, Germany, France and other countries in the establishment of an institute for the study and teaching of these diseases, Dr. E. N. Tobey, of the Harvard Medical School, has, in recent articles, successfully answered the objections which have been urged against this necessity.

The need for a special institute for the study of tropical diseases is in no sense a reflection on the magnificent work which the Bureau of Public Health and Marine-Hospital Service has done and is doing. The sharp eye which this service keeps on our ports to prevent the entrance of exotic disease, the magnificent service which it has rendered in the suppression of pestilences, the importance which the hygienic laboratory has assumed as a center of research in contagious and infectious diseases, the pioneer work which it has instituted with respect to the study of leprosy amongst other labors, compels us to agree with Seaman when he says that "the United States Public Health and Marine-Hospital Service is the one department of which Americans have most reason to feel justly proud."

The growing sentiment in this country of the obligations of the federal government to the public health is propitious, and this sentiment needs the fostering care of physicians more than any other class. The importance which we to-day assign to tropical diseases in this country demands our best efforts in the extension of the authority of this service and in the securing of appropriations to render it still more efficient.

Let us hope that these opportunities will impel the performance of the duties which they impose.

THE PRESENT STATUS OF STOMATOLOGY

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE SIXTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1909

EDWARD C. BRIGGS, M.D.
BOSTON

It is my pleasurable duty to address you in welcome to the Sixtieth Annual Session of this Association. Our able and untiring Secretary has prepared the feast, and it promises to make this year's meeting second to none which we have had.

At this time it is in order to look back, with what complacency we may, on the progress in our profession during the past year, and to outline some of the hopes and aspirations for the future.

There are two great incentives to the profession to grow and develop. One is the desire of the true physician to increase his power to prevent or heal suffering—to keep abreast of the world's progress in general. The other, to gain for his specialty that recognition in a social way which will satisfy the hearts of those already in practice and offer to the youth contemplating a life work a profession in the practice of which there shall be nothing incompatible with the highest self-respect.

While new and increased attainments in the first case help to some extent, in the second it is by no means proportionate, and I doubt very much whether, even with all knowledge, with every practitioner a doctor of medicine, we should find our condition improved otherwise than in the direct satisfaction in our hearts over our increased efficiency. Perhaps if we faced the condition squarely and honestly we should more easily and readily find the cure.

I venture to say that we suffer much from the term "dentist" and if we could shake that off, even as the surgeon has shaken off his original appellation of "barber," we could more easily claim the recognition to which

our attainments entitle us. And consider our attitude in regard to nostrums and inventions! Here are men practicing a liberal profession constantly exhibiting a selfishness which, like other vices, generally proves a boomerang; instead of gaining in reputation or financial returns, such men too often lose both and do much to lower their profession. We have many bright and shining lights in this dark way, but, alas! the rank and file are constantly bringing on us the judgment that ours is a profession of sordid money-grabbers. Yet have any of our inventors of remedies or instruments who have patented their inventions for the sake of financial returns ever reaped their desired reward? Have they not rather received pitifully unsatisfactory returns and lost forever the opportunity of being enrolled in the list of the benefactors of their profession and of mankind—a list which is a long and glorious one in the other branches of medicine?

But let us turn to the contemplation of the steps which we as stomatologists have been making the past year toward the goal of being perfect physicians to the teeth and their environment. Much progress has been made along the lines of greater appreciation by us, by our fellows in other branches of medicine, and by the public generally, of the part which a perfectly equipped oral cavity plays in the preservation of the general health of the individual.

Fletcher's teachings have received prominence and general acceptance. He has entered on a missionary work in New York which not only improves the physical and moral condition of those whom he teaches, but also brings into greater prominence the importance of the stomatologist in the conservation of health and morality.

Perhaps one of the most notable efforts for the advancement of the profession, both among ourselves and the laity, has been the formation of the Dental Hygiene Council of Massachusetts, which is being followed rapidly by the formation of like societies in other states.

I quote from Dr. Potter, who has ably seconded Dr. Woodbury in the development of the Council. He states the objects of the council to be (a) publication and distribution of literature on oral and dental hygiene; (b) urging the work of examination of school children; (c) giving advice to educators and others as to practical methods of promoting dental hygiene; (d) assisting in the formation of dental dispensaries where dental services can be had at a nominal cost; (e) establishing lists of young practitioners who are willing to work within the means of persons of small wages; (f) calling attention to the way in which the condition of the teeth enter into the problem of the general health and physical development of the community.

They have established a dental hygiene exhibit which has been shown in a number of cities not only in Massachusetts, but in other states, and which has made a deep impression on layman and scientific student alike.

By means of casts, slides, photographs, etc., the council aims to bring before the public and the profession the importance of dental hygiene in preventing disease and building up sound minds in sound bodies.

The bacteriologist has made us familiar with the *Staphylococcus pyogenes*, pneumococcus and spirochete, which flourish so successfully in the unhygienic mouth and breed disease far reaching and destructive in its influence.

The reading of the opsonic index and the vaccine treatment, both the autogenous and stock vaccine, has enlarged the scope of the stomatologist and bids fair not only to increase his usefulness to his patients, but also his importance as a true physician to the diseases of the oral cavity. The pendulum is swinging away from the point at which all dental troubles were treated mechanically and where the stomatologist was only an operator; and may be will swing too far and we shall hear of a vaccine for every ill, and be advised to throw all instruments into the scrap-heap.

Not long ago I even heard a speaker state that interstitial gingivitis had been cured by vaccine, while the teeth were still covered with scales. I fear this is going pretty fast, but it shows how the germ theory has taken possession of us!

Speaking of interstitial gingivitis, I am minded to make that a text for a short sermon on the cruelty of some obstructionists, both to themselves and to the profession, in opposing, simply for the sake of opposing, the efforts of some to raise our scientific standard. This is shown by the opponents of the term "interstitial gingivitis." They have nothing better to offer, yet, with the perversity of the bucolic, still adhere to the totally unscientific name of Riggs' disease. I am sorry to say that there are many bitter objectors to the term who do not even understand the meaning of the words.

I have heard within the year an eminent educator in our profession jeer at the use of "interstitial" because "it meant the interstices of the teeth, and as the disease was not always between the teeth the term was a misnomer." Let me ask all such obstructionists to look up the definition in their medical dictionaries before they defiounce!

Now, there have been few new remedies added to our list, but there are some important applications of old ones. Leary's IKI solution (iodin, 1 part; potassium iodid, 2 parts; water, 100 parts) as an antiseptic for the bacteria of the mouth seems to be a distinct advance. Both ingredients have been used individually and in other connections, but this particular mixture seems a most happy one.

Again, the use of bismuth paste after the manner suggested by Beck proves to be helpful to the stomatologist in the treatment of antrum diseases, alveolar abscesses and the pus pockets of interstitial gingivitis.

It seems to me that more attention should be paid by us to the production of anesthesia, both local and general, for painful operations, such as the preparation of roots for crowns, removal of nodules from tooth roots, and excavations for filling; for more thorough study shows little or no danger in the use of ethyl chlorid in the production of general anesthesia and cocain or eucain, or both combined, in local anesthesia by injection.

The unfavorable cases reported in the use of these agents are now pretty conclusively shown to be due to impure preparation or gross ignorance of fundamental principles on the part of the user.

We should be too intelligent to condemn the use of a drug because some one has had an unfortunate result from the use of an impure preparation or from administering it to a patient already in a critical condition from heart, kidney, or lung diseases, or from the employment of toxic doses when the therapeutic doses have been called for.

Since this address is merely introductory, I have purposely made it very brief, for we have many papers of special scientific import and I know you must be anxious to get to them.

129 Marlboro Street.

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ABSTRACT OF DISCUSSION

DR. GEORGE V. I. BROWN, Milwaukee: I am glad to hear Dr. Briggs speak of the important advances made by our profession without divorcing us from other advancements in medical science. It is unfortunate that speakers and essayists sometimes refer to the progress we are making as though we were working along distinctly individual lines, quite ignoring the fact that ours is only a division of medical practice that is advancing hand in hand with the other divisions.

DR. S. G. JACKSON, Vineland, N. J.: I am glad that the profession is recognizing the work of Horace Fletcher. Thorough mastication is the essential thing for good teeth, as well as for proper digestion and assimilation. If we can teach the children this, much will be accomplished for future generations.

Original Articles

THE PHYSIOLOGY OF THE EUSTACHIAN TUBE *

EDMUND PRINCE FOWLER, M.D.
NEW YORK CITY

The physiology of the Eustachian tube has been regarded as so well established that I hesitate to relate experiments which will necessitate a different view.

Politzer made the following observations by means of an ear manometer, a small glass tube (from 2 to 3 mm. wide and containing a drop of liquid) fitted into a rubber stopper and the latter hermetically sealed into the external auditory canal. During Valsalva's experiment the fluid rose in the manometer. During Toynbee's experiment, after a slight positive fluctuation during the first stage of swallowing, there was a marked negative fluctuation of the fluid which coincided with the rarification of the air in the nasopharynx. The fluid in the manometer then remained stationary until the Eustachian tube was reopened by another act of swallowing with open nostrils. Sometimes fluctuations in the manometer fluid were noted synchronous with quiet respiration.

In endeavoring to substantiate the above experiments with a manometer similar to Politzer's, it was apparent that the one important fact established was that the Eustachian tube opens during deglutition, but just how the normal pneumatic air balance in the middle ear is maintained under the usually existing conditions was not clearly demonstrated. It seemed to me that the act of swallowing, opening and closing the pharyngeal portion of the Eustachian tube should exert an effect on the air in its tympanic prolongation similar to that which would occur in a piece of rubber tubing when the walls of the latter were released and compressed.

Over one end of a small rubber tube, place a soap-bubble film or a film of saliva to act as a delicate manometer, and apply a small clamp near the other end, or pinch the tubing with the thumb and forefinger. On quickly releasing and reapplying the clamping device, the film will be observed, first quickly to become concave, then at once convex, and finally, to come to rest with a slight outward convexity.

It was practically impossible to obtain accurate information by means of Politzer's manometer, as the movement of the tympanic membrane during deglutition is so slight that the air-changes this movement occasions are masked by the contractions of the muscles about the cartilaginous portion of the external auditory canal, and experiments were often negative or showed the reverse of that which I believed must be true. To overcome these difficulties, I fitted well into the osseous canal a small glass manometer, with a lumen one mm. in diameter, and flanged at the outer end better to accommodate a soap-bubble film, by means of which the changes in air pressure within the device could be detected. Using this instrument, I have been able to obtain during deglutition results exactly similar to those brought out by the rubber-tubing contrivance.

The most delicate manometer is the drum membrane of the patient, and in suitable cases if the light reflex is studied through a magnifying Siegel's speculum the drum membrane may be seen during the normal act of swallowing to depress quickly and to inflate and come to rest in a slightly inflated condition.

During Toynbee's experiment, after deflating and moderately inflating, it is again sucked in and so remains until another act of swallowing opens the tube and allows it to return to its normal position. Theoretically, after the final deflation, there should be a slight inflation, due to closure of the tube, but I have been unable to see this—probably because the drum becomes stretched too tensely to allow it to appear. These phenomena are best observed on thin drum membranes, and on those which contain old perforations obliterated by very thin scar tissue, as the latter is often very sensitive to slight changes in intratympanic air pressure.

It is of great assistance in interpreting movements of the drum membrane to execute the experiments while by means of the hand bulb attached to the speculum the air in the canal is condensed and rarified. On moderate condensation the drum will be pushed inward, and on swallowing no movement will be observed, while on gentle suction the act of deglutition will cause a marked inward flutter of the membrane, followed by an over-return to its former state.

During strong suction or condensation, the drum membrane is too tense to be affected by the slight air changes brought about during deglutition by tubal opening or closing.

By observing the drum membrane, or by using the glass manometer above described, I can not positively state that I have seen fluctuations due to the influence of quiet respiration on the intratympanic air. With Politzer's instrument I have observed movements in the manometer fluid synchronous with respiration, but on substituting the other methods of observation these were not apparent, and I concluded that they must have been caused by the respiratory pulse, especially that in the blood vessels about the cartilaginous portion of the ear canal.

If the foregoing observations are accurate, the act of swallowing should increase the sound of tuning forks heard either by air or by bone conduction. That it does this is proved by the following experiments:

If a tuning fork (preferably C, C_1 or C_2) is vibrating strongly near to and below the nostrils, the act of swallowing will cause a marked increase in the intensity of its tone to be perceived in both ears. This increase lasts only during the culmination of the first part of deglutition, or, in other words, while the tubes are held open by the contractions of the tensor and levator palati muscles.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Until recently I was under the delusion that I had originated this experiment, but I find that before I was born Politzer[1] discovered the same phenomena and stated that the experiment could be used in certain cases for diagnosing tubal and middle-ear obstructions.

I have found the experiment useful in many cases, and especially if a double auscultation tube is used to connect each ear of the patient with an ear of the examiner, as by this method the latter is able to hear and compare changes in the intensity of the fork's note during deglutition, and so eliminate errors due to the patient's inability to recognize correctly changes in musical notes.

Politzer states that the examiner can occasionally hear the increase in the sound of the tuning fork during the experiment only in patients with healed suppurations, with unhealed perforations, or with cicatrices in the latter, or with cicatrices stretched before the tympanic orifice of the tube. In normal ears I have seldom failed to hear a distinct increase in the sound during swallowing, and in individuals with blocked tubes the increase is almost invariably heard after the physiologic function has been re-established.

This increase in sound perception is due almost wholly to the opening of the Eustachian tube during deglutition, and it may be well elicited without the act of swallowing by simply contracting and relaxing the muscles which act as tubal openers. If the nose is closed during this experiment, an increase in sound is heard during tubal opening, but less intensely than with open nostrils, while if the nose is closed and the fork is held before the open mouth a more marked accentuation in sound occurs. The fork is heard best if held horizontally beneath the nostrils with one prong presenting near its free extremity and by its outer side. If the fork is held before the nostrils and if at the instant when its note ceases to be heard by the patient he swallows, the sound will again become audible to him. This method of eliciting the test is often most serviceable.

The following experiments and results were observed: Opening the normal Eustachian tube by deglutition or by contraction of the tubal muscles causes increased perception for the sound of the lower tuning forks held before the nostrils as follows: With the ears open a marked increase was noted; with the ears closed by the finger (using care not to compress air in meatus) increase was noted; with one ear closed by the finger increase was greater in the other ear; with both ears closed by author's ear massage cups, there was marked increase; with one ear closed by author's ear massage cup, increase was more in cup ear; with both ears closed by author's ear massage cups (air in one, rarified or compressed), increase was noted only in other ear; with both ears closed by author's ear massage cups, note is heard to increase more than with the ears uncovered, unless extreme quiet can be obtained.

Opening the tubes immediately after autoinflation by Valsalva's method brings about a distinct increase in the sound perception.

Opening the tubes after autodeflation by Toynbee's method brings about a still greater increase.

If one tube is blocked, the increase is noted during swallowing regularly on the patent side.

If a long rubber tube is slipped over the shank of the fork, and its distal end placed in the nostril, results similar to those described may be elicited during tubal opening, but if the tubing is inserted into the external auditory meatus no change in intensity occurs. So much for the increase in sound during tubal opening as heard by air conduction through the Eustachian tube.

By bone (craniotympanic) conduction I obtained the following results:

A vibrating tuning fork (C, C_1, C_2) is placed in firm contact with the scalp, preferably over the lambda. During deglutition or tubal opening a marked increase in the sound will be noted by the subject. If the air pressure in one meatus is considerably increased or diminished, the increase in sound will be noted only in the other ear. If both ears are covered by the author's ear cups, and care is used not to compress or rarify the air in the canal, the increase in sound of the vertex fork during deglutition will appear faintly or not at all. If one ear is covered by the cup, the sound of the vertex fork will be lateralized in the covered ear, and on swallowing this increase by lateralization will so mask the experiment that it is difficult to detect the faint increase which should appear more marked in the uncovered ear.

If a fork is vibrating on the vertex, Valsalva's experiment will cause a marked increase in sound to be perceived. If Valsalva's experiment is very gently executed and the pressure in the nasopharynx is increased until only one tube opens, the sound of the fork will be clearly lateralized to the side of the open tube.

If a fork is vibrating on the vertex, Valsalva's experiment appears to bring about increased perception only to the side inflated, and this increased perception persists as long as the tube is held open by the raised air pressure in the nasopharynx.

Gentle double autoinflation will increase the perception of vertex forks in both ears, and that this is not due wholly to tubal opening may be proved by placing the fork on the head (preferably on the mastoid fossa), quickly removing it, executing gentle inflation, replacing the fork, and then allowing the middle ear to deflate. The fork's note will be heard louder on its second placement and less distinctly after the middle ears have recovered their normal pneumatic balance.

If more than the faintest inflations are used, the results will be exactly opposite, owing to the influence of the increased air pressure in the middle ear.

If in normal ears, at the moment when the sound of the vertex fork ceases to be heard, swallowing is executed, the sound of the fork will reappear to the ears in the order of the opening of their tubes.

If the ears are closed during these experiments, the increases in sound are not easily detected, probably because this closure interferes with the slight further increase in bone conduction brought about by the movement of the drum membrane during tubal and middle-ear ventilation. If this were not the case, the increase in sound should appear in a similar manner to that occurring during swallowing with the ears closed and a fork vibrating before the nostrils, and I, therefore, bring these bone-conduction experiments forward as further proof of the movement of the drum membrane during deglutition and as tests that may be useful for diagnosis in selected cases.

The increase in the sound of vertex forks during tubal opening is brought about by two main factors—one being the opening of the communication between the middle ear and nasopharynx, permitting increased perception by air conduction from the latter; the other

1. Diseases of the Ear, p. 132.

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is the increased bone conduction due to slight changes, mainly in the drum membrane. That this is a factor I believe I demonstrated by applying the fork before and after Valsalva's and the other experiments, as the note under the different conditions could be compared without the interference of sound changes due to Eustachian tube opening.

Although I can bring forward but slight evidence to prove that during tubal opening there is a contraction of the tensor tympani muscle, I will present this evidence for discussion. If, while one of the lower forks is vibrating on the vertex, the tubal muscles are voluntarily contracted just short of opening the tube (this can be managed with practice), it will be noticed that during the muscular contraction a slight increase in sound sometimes occurs. This increase in sound is of a different character from that noted during tubal opening while a fork is vibrating on the vertex or before the nose, and gives the impression that bone conduction has been slightly increased. The middle-ear structures which would be apt to be affected during the experiment are the tensor tympani muscle and the parts to which it is attached, especially the malleus and drum membrane. If the ears are closed during the experiment, no increase in sound can be detected, nor does this occur if the experiment is executed with the fork vibrating before the open nostrils.

The intimate nervous connections through the otic ganglion of the nerve to the tensor tympani, and the nerves innervating the muscles attached to the Eustachian tube, at least make it seem possible that during contraction of the latter the former also may be brought into action. This does occur during the act of yawning, as brought out by Politzer and confirmed by Helmholtz.

The otic ganglion is in relation internally with the cartilaginous Eustachian tube and the origin of the tensor palati muscle. It communicates with the glossopharyngeal and seventh nerves through the small superficial petrosal nerve continued from the tympanic plexus, and through this communication it probably receives its sensory root from the glossopharyngeal, and its motor root from the facial.

Its branches of distribution include a filament to the tensor tympani and one to the tensor palati. The fibers of these nerves are mainly derived from the nerve to the internal pterygoid muscle.[2]

Politzer[3] quotes L. Meyer to the effect that the anterior border of the tensor tympani is sometimes in close relation with the tensor veli palati, either directly or by fibrous tissue. The cracking noises heard in the ears during deglutition and produced by many people by voluntary effort are caused principally by the contractions of the abductor tubæ muscles, but the noises may be caused also by contractions of the tensor tympani.[3]

Contractions of certain muscles of the face, especially the orbicularis palpebrarum, can produce simultaneous contractions of the stapedius, as first observed by Lucæ, and while during these contractions the perception by air conduction for the lower and middle tones of the tuning forks is lessened or discontinued, the reverse holds good if these forks (especially C_2) are heard by bone conduction, and the tones seem markedly intensified. In other words, bone conduction is increased. The note is also raised the fraction of a tone.[4]

I mention these facts, as they are similar to, though more marked than those noted during contractions of the tubal muscles alone.

It is conceivable that during tubal opening the tensor tympani should contract to prevent traumatism to the conducting mechanism from violent inflations through the tube, to make tubal opening less difficult, and to prevent during the opening of the tube disturbances in sound perception due to movement of the drum membrane. As its subsequent relaxation follows the increase in intratympanic air pressure due to tubal closure, this increase in air pressure will not cause so much disturbance as would be the case if the drum membrane were immovably anchored during the ventilating process. In other words, the slight contraction of the tensor tympani protects and tends to prevent disturbances in the conducting mechanism during ventilation of the middle ear.[5]

I hold that the tensor tympani may contract during contraction of the tubal muscles, and, though I arrive at this conclusion mainly by exclusion, I hope it may perchance stimulate further research along the line indicated, to the end that from more accurate knowledge may spring beneficial practices.

It appears that the middle ear is easily ventilated under normal conditions, because the walls of the Eustachian tube, to a greater or less extent, lie in just sufficient contact to enable the ordinary act of swallowing to bring about their separation, and on its completion to allow their collapse to close the tube and re-establish the faintly positive air pressure which I have shown tends to exist in the tympanic cavity.

It is easily demonstrable that with the slightest rarification of the air in the middle ear more effort will be required to inflate the tube and middle ear than if there is an increase in the tympanic air tension.

Many individuals with chronic retraction of the drum membrane require but a slight increase in pressure in the nasopharynx to enable them during the act of swallowing to ventilate the ears adequately, and it seems to me that the usual method of treatment is wrong, because it violently inflates the middle ear and at comparatively infrequent intervals, and, therefore, does not fully meet the conditions presenting.

To provide a means for home treatment in these cases, I devised a method based on the following experiment. At first sight, this may appear to be but a modification or combination of Valsalva's and Toynbee's experiments, but, as its performance is different from either, and its result the opposite to the latter, I hold that the experiment is distinct. I mention it in this paper, because it is a modification of Nature's method of inflating the Eustachian tube and middle ear.

While the nostrils are tightly closed by pinching them together with the thumb and forefinger as near their free borders as is possible, gently increase the air pressure in the nose and nasopharynx by attempting to expire wholly through the nose, and, while maintaining this increased pressure, swallow. The result will be the inflation of both middle ears.

This is brought about by the opening of the tubes during the increased nasopharyngeal air pressure, due

2. Gray's Anatomy, 1896, p. 808.
3. Diseases of the Ear, p. 33.

4. To bring out these results the fork must be vibrating strongly during the experiment.
5. Several important considerations naturally occur to one in connection with the above, but their discussion would lead me into a discourse too lengthy to be included in this paper.

to the patient's efforts and to the ascent of the soft palate. During the second stage of deglutition a negative pressure is avoided, because the primary increase in pressure and the bulging of the elastic lateral walls of the nose supply a sufficient amount of air reserve to enable the descent of the soft palate to occur without creating a partial vacuum in the nasopharynx.

Until familiar with this method of inflation it is well to take a full breath preliminary to its performance. It would be unwise to prescribe this treatment for some patients, as it is subject to abuse and harm might result from faulty execution.

The author's automatic ear inflator.

To avoid all danger, I have used an instrument, here illustrated, so constructed that, no matter how forcibly the patient blows into it, the pressure in the instrument, and, therefore, in the nose during treatment, can not exceed a certain number of millimeters of mercury—the latter to be determined by the surgeon when prescribing the device. It consists of a rubber balloon attached to a nosepiece. If one nostril is closed and the nosepiece is fitted tightly into the other nostril, the patient may inflate the balloon by blowing into it through the nose. In the size I usually employ, a pressure of about 10 mm. of mercury is required to inflate the air bag, and, no matter how much it is distended, the pressure within it will remain between 8 and 10 mm. of mercury. After inflating the balloon, the patient, without removing the nosepiece or releasing the opposite nostril, swallows, and repeats this act several times, or until the balloon has completely collapsed. At every deglutition both middle ears will be inflated. During deflation the air pressure in the balloon remains at about 6 or 8 mm. of mercury until the bag is deflated, when the pressure drops suddenly to zero.

So far as I can see, this method is simple, safe and efficient, and enables patients to obtain every-day treatment which can not but benefit the diseased conditions it is adapted to correct.

I have made many modifications of this instrument, but the one described is the simplest and cheapest. The balloon may be made in various sizes and strengths, depending on the amount of air and the pressures it is desired to obtain.

The experiments here detailed were devised by me and executed first on myself and subsequently on many other individuals, and with one or two exceptions were confirmed by competent observers. To carry out the more delicate experiments correctly much practice and patience are required.

57 West Seventy-sixth Street.

ABSTRACT OF DISCUSSION

DR. J. HOLINGER, Chicago: The instrument Dr. Fowler shows is of decided advantage, because of its psychic effect, if for no other reason; so long as the patient has something which requires some special preparation it is an inducement for him to carry out directions more accurately. I did not hear Dr. Fowler mention the name of Professor Bezold, who has done so much along this line. A point which I think is often overlooked in affections of the tube is the difference in size of the cells in the mastoid process. If it is true that these cells have the function of a reserve air tank, it is evident that the difference in size of this tank can not be without influence on the ventilation and function of the middle ear. It seems to me that together with the adenoids this smallness of the reserve air tank in children explains the frequency of affection of the tubes much better. In adults, too, after destruction of the cells by mastoid operation, I have often seen affections of the Eustachian tubes which necessitated treatment extending over many weeks.

DR. GEORGE E. SHAMBAUGH, Chicago: I do not wish to pass unfavorable criticism on a piece of work on which so much time and patience has been spent as this paper by Dr. Fowler. I should like to suggest, however, that the one object in writing a paper is to convince other people of conclusions which our work has led us to believe are correct. It is a point that we should always keep in mind in preparing a paper. An article that covers so much as this paper by Dr. Fowler is much less likely to accomplish this object than a paper in which not so much is attempted.

DR. EDMUND P. FOWLER, New York: Probably Dr. Shambaugh is right in saying that I have tried to give in one paper too many experiments pertaining to the Eustachian tube, and it would have been wiser perhaps to have presented one phase of the matter at a time. My object was to obtain criticisms from men who had investigated the experiments before the meeting, to the end that my work could be substantiated. The little instrument I have shown I have used in the form of a penny whistle for some time with apparently happy results. We must be cautious in our opinion because every new treatment is apt to show remarkable results at first, but I think the method outlined has benefited a great many people and especially those who could not spare the time for regular treatment. This treatment, so far as I can see, is harmless and enables patients to maintain the drum membrane in a better condition than if they carried out no treatment at home.

SYMPTOMS OF INTRACRANIAL COMPLICATIONS OF PURULENT OTITIS *

ARTHUR B. DUEL, M.D.

Attending Aural Surgeon, Manhattan Eye, Ear and Throat Hospital; Consulting Aural Surgeon to the New York Health Board Hospitals; Otologist to the Babies' Hospital

NEW YORK

The subject of intracranial lesions arising from suppurative otitis has occupied the foreground in otologic discussions for many years. The brilliant achievements of Macewen in this difficult surgery were already well known in the 80's and his classical work "Pyogenic Diseases of the Brain and Spinal Cord," published in 1893, stands, with few parallels in surgical literature, as a monument to his genius.

The impetus exerted by this publication in extending the otologist's field has been tremendous, and has resulted in the cure of hundreds of cases which previously had been considered hopeless.

Added knowledge of the function of certain areas in the brain, improved methods of study of the blood, and cerebrospinal fluid, and accurate data regarding the static equilibrium, have all contributed in recent years, to an earlier and more certain diagnosis of the character and localization of intracranial lesions.

Certain clinical data have now come to be recognized as definite proof of lesions which formerly were considered doubtful. Nevertheless it must be admitted that, with all the evidence which can be accumulated, we are too often in grave doubt as to the nature or

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

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location of a lesion which presents symptoms serious enough to force us into an exploratory operation. Under these circumstances one can not escape a feeling bordering on helplessness in the presence of such a desperate surgical condition.

In view of the numerous well-known works and monographs on this subject, it would be presumptuous on my part to attempt to do any more than bring up for consideration, the more important views of others, presenting them in the way they have been most useful in my own experience.

It is not within the province of this paper to discuss the pathology of extension of suppuration of the middle ear to the endocranial structures. Nevertheless it is important, to an understanding of the symptoms which arise, that the methods of invasion should be borne in mind.

Infection may take place on the one hand directly through dehiscences in the bone, to the middle or posterior fossa either the result of erosion, or developmental defects, or occasionally, from operative work: on the other hand, the infection may travel through the lymph sheath of blood vessels, or nerves, or in the blood-current, from the tympanum, mastoid antrum, or mastoid cells, to the duramater of either fossa, or to the sigmoid sinus. Even further you are aware that suppurative processes, having invaded the labyrinth, are in direct communication, through the ductus endolymphaticus, with a pocket between two layers of the dura; and, through the aqueductus vestibuli, directly with the subarachnoid space.

Naturally, symptoms of endocranial involvement must vary greatly with the method of invasion and the virulence of the organism causing it.

Endocranial lesions resulting from acute suppurative otitis are likely to be very rapid, from a most virulent infection, and very general in this invasion, owing to the fact that the infection has entered the cranium through lymph sheaths of the blood vessels, or through the vessels themselves, rather than by erosion, or disease of the bone, as in chronic cases; and, as a result of the rapidity of the invasion, there has been no opportunity for resisting barriers to be thrown out. Symptoms of endocranial envolvement of acute suppurative otitis, then, are more likely to be those of acute leptomeningitis or sinus thrombosis than of temporosphenoidal or cerebellar abscess.

On the other hand, when intracranial invasion has resulted from chronic purulent otitis, the infection being slow and milder in character, due to necrosis and erosion of the inner plate, the early symptoms are likely to be those of a very local involvement of the dura (external pachymeningitis) with the production of an extradural abscess.

Should this persist a fibrinous exudate may form on the internal surface of the dura, cementing it to the subjacent arachnoid and pia mater, thus preventing a diffuse leptomeningitis, as happens in the acute cases from the rapidity of the invasion. This barrier may also prevent further extension into the brain, but, continuing, a necrosis of the cortex may take place leading to the formation of an intradural abscess. Still continuing, the suppuration may extend to the deeper parts with the formation of a cerebral, or cerebellar abscess, according to the position of the primary invasion.

On the other hand, deep-seated abscesses may form without this progressive involvement of the different membranes, and the cortical substance, owing to thrombosis of small veins running in from the surface. In a similar manner thrombosis of the sigmoid sinus or jugular bulb may take place without the previous formation of a perisinus abscess.

In a general way, then, it may be said that endocranial involvement of acute purulent otitis is likely to be rapid, diffuse, and accompanied by violent systemic disturbances, in addition to the local symptoms; whereas the involvement from chronic purulent otitis is likely to be slow, distinctly localized, with slight systemic disturbances in the early stages, owing to the fact that its progress has been combated at every step by Nature's protective barriers. The final breaking down of these protective barriers, in the later stages, gives rise to violent symptoms of systemic disturbance, similar to those which occur early, in the acute cases. The lesions to be considered are:

A. Inflammation of the meninges: (1) External pachymeningitis, or extradural abscess; (2) internal pachymeningitis or intradural abscess; (3) diffuse leptomeningitis; (4) serous meningitis.

B. Inflammation of the brain: (1) Encephalitis; (a) circumscribed; (b) diffuse. (2) Brain abscess: (a) temporosphenoidal; (b) cerebellar.

C. Inflammation of the sinuses of the dura: (a) lateral: jugular bulb, jugular vein; (b) superior and inferior petrosals: cavernous.

D. Erosion of internal carotid artery.

In considering any suppurative intracranial lesion it is well to bear in mind the fact that many of the symptoms arising from it are purely mechanical in origin, while others are the result of the toxemia produced by the infection.

Any meningeal inflammation has three characteristic symptoms; *headache,* which is severe and persistent; *vomiting,* which takes place without nausea and at unexpected times; *constipation,* without abdominal distention or pain, which can not be relieved by cathartics or purgatives. These symptoms are due largely to an alteration of adjustment of intracranial tension, although absorption of toxins has some part in them.

The accompanying symptoms, of mechanical origin —due to pressure of the effusion on the cortical centers beneath—vary according to the location, extent, and nature of the inflammation, together with the degree of irritability of the patient. Such symptoms have been classified by Ballance as follows:

1. *Psychic symptoms:* Irritability, change of disposition.

2. *Motor symptoms:* Convulsions, Kernig's sign, exaggeration of reflexes.

3. *Sensory symptoms:* Photophobia, hyperesthesia.

4. *Sympathetic vasomotor disturbances: Tache cérébrale.*

5. Finally, *symptoms due to exhaustion and death of nerve cells:* Paralyses, anesthesia, coma.

Fever, anorexia and emaciation, the other accompanying symptoms, are due to the general infection rather than to the meningeal involvement, and may be very pronounced or very mild, depending on the virulence of the organism producing them.

In a case of purulent otitis, or mastoiditis, acute or chronic, either before or after operation, the occurrence of severe and persistent headache; repeated vomiting, without nausea; and obstinate constipation, accompanied by fever, together with one or many of the detailed symptoms of cortical irritation, would point unmistakably to meningitis.

The problem then presented would be to determine whether the inflammation was of a serous, or purulent, or tuberculous type; whether localized or diffuse; whether associated with brain abscess, encephalitis, or sinus thrombosis.

Much light has been thrown on these questions by examination of the cerebrospinal fluid obtained by lumbar puncture. In diffuse purulent leptomeningitis, the fluid is under high pressure, opaque, and contains large numbers of leucocytes and abundant bacteria. In serous meningitis, it is under high pressure, contains very few leucocytes, and no bacteria. In tuberculous meningitis it is under very high pressure, and contains tubercle bacilli. At the Babies' Hospital it is not unusual to draw off 140 to 150 c.c. of fluid. In 76 cases of tuberculous meningitis the bacillus was found 74 times in the cerebrospinal fluid. In acute leptomeningitis from 30 to 40 c.c. of fluid are withdrawn, and the infective organism is always found. Diffuse purulent leptomeningitis which has an acute onset, and rapid course; while tuberculous meningitis has an insidious onset, a slower course, and a period of remission. Acute basal meningitis has a slower course than diffuse purulent leptomeningitis. It occurs in infants up to one year of age. Tuberculous meningitis occurs from 2 to 7 years, and purulent leptomeningitis at any age.

Optic neuritis is an early symptom in leptomeningitis and a late one in tuberculous meningitis. Blood counts show a high leucocytosis (30,000 to 40,000) and high polymorphonuclear count (75 to 90 per cent.) in diffuse leptomeningitis, while in tuberculous meningitis, it is likely to show a low leucocytosis (10,000 to 15,000) and a low polymorphonuclear count (60 to 70 per cent.) Meara has reported 37 cases in which 81 per cent. showed a leucocytosis of over 13,000, ranging as high as 38,000 in clinically uncomplicated cases. It is evident from this that the blood count is not as valuable a differential factor as microscopic examination of the cerebrospinal fluid for the tubercle bacillus.

EXTRADURAL ABSCESS, INTRADURAL ABSCESS, CEREBRAL ABSCESS, CEREBELLAR ABSCESS

The symptoms arising from localized collections of pus within the cranium, like those from meningeal inflammation, are best appreciated when considered from the points of view of (a) the systemic disturbance due to the toxemia; (b) the mechanical disturbances resulting from increased intracranial tension; and (c) those resulting from pressure on or destruction of definite areas of the brain.

Thus, the mere presence of pus, depending on the virulence of the organism producing it, and the amount of poison taken into the circulation, might produce moderate or high temperature, chills and vomiting. The mechanical pressure might alter the intracranial tension sufficiently to cause slow cerebration, slowness of pulse, vomiting of a cerebral type (at unexpected intervals, and without nausea), and obstinate constipation. Pressure on or destruction of centers in the motor area might cause convulsions, on the one hand, or paralysis on the other; the same action in other areas might cause a perversion or loss of certain special senses. Thus it frequently happens that large collections of pus may at times take place extradurally, or intradurally, or in an area of the brain not occupied by important centers or tracts, and, being well walled off, may remain for long periods without giving rise to any characteristic symptoms. Such a collection of pus is not infrequently encountered during the course of a mastoid operation, the symptoms, previous to operation, having been so slight that the abscess was unsuspected.

In other cases, the suspicion of an epidural abscess or intradural abscess with connecting fistula is aroused by the unusual and persistent discharge of a quantity of pus from the tympanum which seems too large to have come from the middle ear and mastoid cells.

Many cases, however, in which there is no fistulous outlet, present characteristic symptoms. High fever, definitely localized pain and tenderness (often far back in the region of the mastoid emissary vein) and stiffness of the neck, are indications of extradural pus under tension. Further symptoms of intracranial pressure may be present from the presence of extradural abscess only, and all or a part of the graver symptoms of leptomeningitis, meningitis or brain abscess may appear.

It has frequently happened that graver symptoms have cleared up after the evacuation of an epidural collection of pus. There is no certainty from the symptoms, however, that such a case is not accompanied by an intradural abscess, or a serous or purulent leptomeningitis, or brain abscess, or sinus thrombosis. In such cases, lumbar puncture, and a blood count are of value in differentiation, in the manner pointed out.

Unless a brain abscess has actually destroyed important areas, or is large enough to interfere with their function, by compression, the location can only be conjectured from attending circumstances. It must be borne in mind that even a large abscess may lie in certain parts, without giving rise to localizing symptoms, owing to the fact that the space for the pus has been made by actual destruction of brain tissue. The abscess formed by the disintegrated brain substance occupies the same space, and therefore gives no evidence of its presence by pressure symptoms. Such accumulations have often become encapsulated and remained for years without sufficient symptoms to bring them to the attention of a surgeon. So-called latent abscess, however, is latent only in the sense that no violent symptoms are present, and careful examination of pulse, temperature, ocular fundi, the functional power of groups of muscles, reflexes, static equilibrium, etc., would have brought to light sufficient evidence, in many of these cases for a diagnosis.

Remembering that brain abscess is a disease of an organ of most complex functions; that it is secondary to many serious conditions which themselves present a variety of symptoms which might be due either to the primary disease, or some other complication; that wide variations in the virulence of the invasion are possible; it is easy to understand that the clinical picture will be a variable one.

Ballance adopts the five types of clinical evolution described by Brissaud and Soques:

1. *A subacute evolution*, in which three stages are evident: (a) The initial *stage of septic infection* characterized by headache, vomiting and fever, lasting 4 or 5 days; (b) the second *stage of remission* in which there is a sudden or gradual abatement of the active symptoms; this period of calm may run over a very long course; (c) the third, or *paralytic stage*, comes on suddenly with or without a convulsion. Coma and death may ensue in a few hours, from rupture of the abscess or, there may be recovery from the apoplectic seizure, followed by symptoms of rapid extension.

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2. *The evolution with severe general infection* which is rapidly fatal. High fever with acute delirium are prominent symptoms, marking the more characteristic symptoms of brain abscess. This is usually mistaken for a malignant form of some specific fever unless other conditions have previously pointed to possible brain abscess.

3. *Evolution with complete latency* until the final attack of coma: In this variety, sudden death occurs without previous suspicion of brain abscess until revealed at the autopsy. It is in this "latent stage" that the suggestion was made that some symptoms might have been found if carefully sought after.

4. In the fourth type the *evolution is just like that of a brain tumor.* Abscess produced by infection of low virulence, and symptoms are similar to a tumor of the same size in the same region.

5. The fifth type of evolution is *the remittent type:* "Here the clinical evolution is in two acts, separated by an *entr'acte* of greater or less duration. The first act is marked sometimes by an attack of mania, sometimes by acute delirium. Then all quiets down and the patient seems cured. But after a few weeks, a few months, or even a year, follows the second act, which is commonly quickly fatal."

It is perfectly evident that the array of symptoms of suppuration; local headache, tenderness on percussion, local increase in temperature, etc., while they have some bearing on the location of the abscess, are not characteristic of any particular type of collection of pus. One can not say whether it is extradural, intradural, or in the brain substance. So, too, the symptoms of pressure, headache, dizziness, vomiting, loss of memory, delirium, slow pulse, optic neuritis, change in size of pupils, apathy, somnolence, etc., while indicative of intracranial lesion, are not characteristic of any particular type or location. Localizing symptoms when present are frequently most definite in pointing out the position of an abscess. Lack of time will prevent more than a brief allusion to some of the more important of these.

Ballance calls attention to the following facts:

1. The cortical center for hearing may be in part or wholly involved, causing tinnitus, hyperacusia, or absolute deafness of the opposite (healthy) ear.

2. The cortical centers for taste and smell may be affected. Alteration or suppression of the sense of smell may occur in abscess, involving the anterior extremity of the temporosphenoidal lobe.

3. Sensory aphasia often occurs in abscess of the left temporosphenoidal lobe in consequence of the cortical centers for the mechanism of speech being on the left side of the brain. The auditory word center and the visual word center are the ones involved in temporosphenoidal abscess. A temporosphenoidal abscess on the left side is therefore commonly more easy to recognize than on the right.

4. Paralysis of the opposite side of the body may be of cortical or internal capsule type. The march of the paralysis is different in the two cases. This paralysis is a frequent occurrence from pressure on the posterior end of the internal capsule, and may be associated, as might be expected, with hemianesthesia.

5. Paralysis of the third nerve on the side of the abscess. This is important. The paralysis is rarely complete. A stabile pupil on the side of the suspected abscess clinches the diagnosis.

6. Paralysis of the "naming center." Certain clinical and pathologic observations point to the conclusion that the nervous mechanism by which the ideas of objects are correlated with their names is located in the left temporosphenoidal lobe.

Few of the early symptoms of cerebellar abscess recorded by various writers can be considered as pathognomonic of that condition alone, since they are so frequently found in other intracranial lesions. In later stages, when the abscess is large, or meningitis of the cerebellar fossa has developed, pressure symptoms appear which point toward that region. Yawning, slow opening and shutting of the mouth, and rigidity of the masseters have been frequently observed. Optic neuritis, while not characteristic, may come on early and be very marked. Pressure on the medulla at a low level produces a brachiocervical paralysis on the same side. If pressure were exerted on the pons on the same side as the abscess, a crossed paralysis would result; pressure on both sides of medulla and pons would produce a bilateral paralysis.

A number of cases have been recorded in which pressure on the medullary respiratory center has been so marked that respiration ceased while the heart continued to beat. I have seen two such cases in which artificial respiration prolonged life for hours. Evacuation of the abscess in such a case might be followed by restoration of the function of the respiratory center, and recovery.

Two symptoms which may appear early are of great significance, viz: rotatory nystagmus, and cerebellar ataxia. The disturbances of equilibrium may not be differentiated from those arising from suppurative labyrinthitis, but Neumann has pointed out that there is a marked distinction in the nystagmus. The nystagmus from progressive labyrinthitis grows weaker as the disease progresses and finally disappears, while that from a cerebellar lesion increases as the disease progresses and reaches a degree never attained in labyrinthitis.

In addition to this, a point of great value appears from the fact that, in a case in which at first the nystagmus was more pronounced when the eyes were turned toward the well side, if the phenomenon later were suddenly reversed a diagnosis of cerebellar lesion could be made with certainty, and a labyrinthine cause excluded.

INFECTIVE THROMBOSIS OF THE SIGMOID SINUS; JUGULAR BULB; JUGULAR VEIN

As has been pointed out, an infective thrombus may occur in the sigmoid or jugular bulb by direct infection through disease of the intervening bone cells, and lining membrane, or by thrombosis of small vessels within the tympanum or mastoid process which lead directly into the sinus or bulb.

The first type is more likely to occur in chronic or subacute purulent otitis, the second from acute purulent otitis, of a virulent character.

Naturally, the chronic cases are more likely to be associated with other intracranial lesions—epidural abscess; cerebral or cerebellar abscess; encephalitis, or meningitis—which would increase the difficulty of diagnosis.

In a typical case without other cerebral complications the symptoms are very characteristic. A chilly sensation or distinct rigor, lasting for a few minutes, is followed by a rapid rise in temperature to 104 or 106 F. The pulse is small and rapid; the facial expression is anxious; there is intense local pain, there is complete anorexia, great thirst, and sometimes frequent vomiting. The tongue is thickly coated, and the breath has the characteristic fetid odor of sepsis. The patient is perfectly rational, perhaps somewhat irritable. The

rapid rise in temperature is succeeded by almost as rapid a fall to normal, or often subnormal, accompanied by profuse sweating and prostration. According to the virulence of the infection, this is repeated in a few hours, or possibly not for a day or two. Irregularity has seemed to me to be a strong diagnostic sign in contradistinction to malarial or tuberculous conditions, though at times there has been a diurnal vacillation from the first. Unusually the chills and fever, followed by the sudden remissions, appear at increasingly shorter intervals, with more marked rigors and wider variations in temperature. Death may occur in a few days from acute septicemia, the patient being perfectly rational up to the last minute.

Left alone, however, signs of metastatic processes in the lungs usually manifest themselves within a week or ten days. Pain in one lung is followed within twenty-four hours by rapid, superficial breathing, accompanied by cough and expectoration of rusty sputum. The temperature may remain persistently high and death may supervene from septic pneumonia, or gangrene of the lungs may take place and death occur at a much later period from pyemia. Should this occur, the constipation, which has usually been present in the first stages, will have given place to a foul diarrhea. Metastatic abscesses in the joints are likely also to appear in the cases which assume the pyemic character.

A certain number of cases will assume a typhoid character very early: there will be no wide vacillations in temperature, and no chills, except possibly at the very beginning. In such cases the mentality is not clear as in the first type. Diarrhea, abdominal pain, and meteorism are present, and skin is likely to be mottled by a dull red rash. The presence of otitis or mastoiditis may be of great value in determining a diagnosis. In such a case, an absent Widal reaction, high leucocytosis and polymorphonuclear count; and, presence of streptococcemia would be of great value differentially.

Then there is a class of cases in which symptoms of meningitis are present early, in connection with the signs of infective thrombosis. Rigors are unusual in the early stages, and the temperature is persistently high. Many of the pressure symptoms and symptoms of cortical irritation of meningeal inflammation are present; tonic and clonic spasms of groups of muscles; squint; early optic neuritis; etc.—in fact the symptoms of meningitis may entirely mask the involvement of the sinus until metastatic processes appear. Early coma, and death, however, are most likely to supervene.

All these types are easily recognizable, but there are many cases in which the early symptoms are not so typical. The first signs of infective thrombosis may be moderate vacillations in temperature, without chills and without prostating sweats. Or in a less virulent case the temperature at first may not show much vacillation, remaining moderately high for a few days without other indications.

On the other hand, wide vacillations in temperature may be present, in infants, without the presence of infective sinus thrombosis. At the Babies Hospital, I have repeatedly observed infants who had influenza or bronchopneumonia, in which vacillations of from six to eight degrees took place for many days; in one case for weeks. The fact that such vacillations took place in those who did not have discharging ears, as well as in those who did, deterred me from investigating the sinuses and jugular bulbs in those with the purulent ears. It is gratifying to report that these children did not die of infective bulb thrombosis. In one child, with very marked purulent discharge from both ears, the vacillations were so very wide that, in the absence of pulmonary signs, I was tempted to perform an exploratory operation. The patient finally died, and I then had the opportunity of investigating the sinuses and jugular bulbs. They were both perfectly healthy.

It seems, therefore, that there are a certain number of cases in which an early diagnosis is very difficult if not impossible. It is possible that increased knowledge from examination of the blood may enable us to make a positive diagnosis in the future at an earlier moment than now. With certain doubtful clinical symptoms present a blood culture showing the presence of streptococci would lead the physician to make a diagnosis of probable infective sinus thrombosis, providing there was no other evident cause for the streptococcemia. So, too, a very high or low leucocytosis, with a high polymorphonuclear percentage, taken together with other symptoms, even though not typical, might lead to a diagnosis of septic thrombosis.

It seems unnecessary for me to discuss symptoms of involvement of other sinuses since they are extensions of infection from the sigmoid, except as they give additional symptoms.

Involvement of the jugular vein may give rise to tenderness along its course, and even to a cord-like feeling, so it is said, although I have never observed it.

Infective thrombosis of the cavernous sinus occurs from suppurative otitis only secondary to that of the superior or inferior petrosal sinuses. In addition to the symptoms of septic poisoning, thrombosis of the petrosals is likely to cause epistaxis, swelling of the veins over the temple, and thrombosis of the retinal veins.

Extension to the cavernous sinus causes an engorgement of the vessels of the orbit, with consequent ophthalmos, photophobia, disturbances of vision, paralysis of the motor oculi, abducens, and trochlear nerves, ptosis and edema of the eyelids and trigeminal neuralgia. Thrombosis of the cavernous sinus of the other side is likely to follow rapidly, accompanied by similar symptoms in the corresponding eye.

While erosion of the internal carotid artery is extremely rare, a few cases have been reported, all of them fatal. The condition can only occur in chronic cases with extensive necrosis. The diagnosis is evident from the gushing of bright red blood from the auricle with great force. This is temporarily stopped by pressure on the carotid in the neck.

In the reported cases death has occurred in from five minutes to thirteen days, even in those patients in whom ligation of the common carotid was performed.

27 East Fifty-Seventh Street.

To Limit Use of Saccharine.—The *Scientific American* says that a conference was held at Brussels for repressing the use of saccharine in food products or drink. While the drug has 400 times the sweetening power of sugar, it is dangerous to health and it is desired to prevent the fraudulent use of the product. Delegates were present from all parts of Europe, and it was decided to hold a new conference on the subject at Geneva during the next spring. A resolution regulating the use of saccharine was adopted. Fiscal agents will look after the manufacture and destination of the product and see where it is employed. In many countries of Europe it is brought in by contraband, and in one case there was found in a vessel in the Russian port of Riga about a ton of saccharine, which would replace 400 tons of sugar.

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THE INDICATIONS FOR TYMPANOMASTOID EXENTERATION IN ABSENCE OF SYMPTOMS OF INTRACRANIAL COMPLICATIONS *

B. ALEXANDER RANDALL, M.A., M.D.
PHILADELPHIA

The prime indication for evisceration in chronic tympanic suppuration is the confidence of the surgeon that he will thereby make the condition safer and better. Hence, the personal equation of the operator is one of the major factors—his operative skill and facilities, together with his insight into the pathologic conditions and the therapeutic possibilities of less radical measures. Some men have not drilled themselves in the exhaustive application of the non-operative procedures or use them so half-heartedly that little can be expected from them: some patients are so intolerant of the tedious, painstaking, pains-giving procedures which alone can succeed in difficult cases that one must cut the Gordian knot rather than attempt to unravel its complexity.

For the field is very complex and difficult; and, while we can truly claim that every one of these patients can be cured by thorough cleansing, experience shows that what is so simple of statement is often practically impossible of performance. Even the intricacies of the tympanic cavities often defy complete access for cleansing, unless the knife clear the way by enlarging the drumhead opening or dividing obstructing folds. Removal of the ossicles should do even more to facilitate access and aid cure; but, as I have repeatedly said, my experience of this has been extremely unsatisfactory, and I have never brought to lasting cure, cases that had resisted full test of mere cleansing. I can fairly claim the same percentage of cures without operation as others claim with it, even in cases condemned by colleagues as beyond any but operative relief.

Study of the literature shows a reasonably probable cure in but 50 per cent. of ossiculectomies, in many of which, like Schwartze's, there was little or no trial of non-operative measures first, the patients being operated on as soon as seen. The same attitude toward radical exenteration has robbed many men of their opportunity to learn how much and how lasting is the benefit which in many of their cases may be gained by fairly persistent cleansing methods.

For this attitude the statements of some men who meet demur as to quick surgical intervention by a preaching more radical than their practice are in part responsible. In face-to-face discussion it is readily apparent that the indications on which men seeming to stand near the two extremes really operate are nearly identical—the main difference being a question of the time at which each thinks that the reasonable efforts in the non-operative line must cease. But one man will cite "all the cases of attic suppuration with Shrapnell perforation" as needing radical evisceration, yet admit that he brings many through without. Another will state that cholesteatoma formation is an absolute demand for operation; yet I have long taught that most cases—broadly speaking, all cases—of chronic suppuration are maintained by cholesteatoma formation. Nature strives to heal over the gaping perforation by growth of the drumhead epithelium. If this fails to bridge the gap, it "skins over" the edges and the cells (perhaps the most rapidly proliferating in the body) invade the mucous cavity of the tympanum with its more succulent blood supply and there form the obstructing laminæ of so-called cholesteatoma. Close study with minutely thorough cleansing will reveal such epidermal flakes in practically every case of chronic suppuration.

Yet some men balk at this minutely thorough work as too hair-splitting and finical, perhaps as beneath their dignity or demanding more time than they can afford to the individual patient, especially in hospital work. Certainly it can not be delegated to the patient himself or even to the less expert assistants. Probe, forceps, curette and intratympanic syringe must be skillfully employed in tedious and exhausting manner if success is to be gained. Yet it is not only fair but urgent to question whether the aggregate of time so spent generally equals that demanded by the operative cure pushed to equal completeness. After it is done for weeks or months it may fail and call for operation; then one regrets and almost resents the wasted time and effort; yet in these same cases is the proportion of real "radical cures" nearly so good as often claimed? Politzer, in summing up as to ossiculectomy, cites "the limited success which the author has attained from this operation," as "after months or years the suppuration recurs, and it is finally necessary to resort to the radical mastoid operation." Yet of the latter he says: "It is impossible to establish, from the many communications which lie before us, all of which present different statistics, even an approximate relation between those cases which heal and those which do not. This is easily explained if it be borne in mind that some surgeons strictly limit the indications for operating, while others proceed to operative measures in all persistent middle-ear suppurations unassociated with complications. The latter will naturally have a greater percentage of cured cases." . . . "Stacke states that 94 per cent., and Schwartze that 74 per cent. of the cases in which the radical operation was performed were discharged as cured. Of the uncomplicated cases operated on at the author's clinic in the last few years, recovery did not take place in only 14 or 15 per cent."

It can hardly be doubted that in the two decades of radical tympanomastoid exenteration there has been considerable advance in skill in choosing cases and meeting the difficulties of the intervention, so a discussion of results must be based on the later years, and especially on the work of the men who are really experienced. My own estimate, published ten years ago, of 90 per cent. of cures proved too roseate, for some of these patients relapsed; and figures like those of Dench are too recent and too large to be followed to final issue. If the non-operative cure is to be distrusted until it has persisted at least two years without relapse, this is certainly a fair test to exact as to the operative results, and few have applied it to their own work as has Schwartze, whose admission of incomplete success in 26 per cent. has great weight. Summarizing the last ten reports from Schwartze's clinic, we find of the 979 patients operated on radically that 536, or 55 per cent., are set down as healed, 181 still under treatment when reported, 82 lost sight of uncured, 84 unknown results and 96 deaths. Among more than 700 additional cases reported by six skilled surgeons some 80 per cent. of patients are reported as cured, with only 5 per cent. of

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deaths; but such figures lose their force when we read the claim of one man that of his 142 cases "without complications confirmed or imminent" all patients were cured. The second operations needed because of failure of the first by the same hands form a small but noteworthy group, while many patients are reported as cured although still showing discharge about the Eustachian tube. These fully offset the due additions to the healed from those unknown or under care at the time of publication.

The deaths reported, constituting nearly 10 per cent. of the whole, were more often in spite of the operation than because of it. Few can be directly attributed to the intervention; yet some apparently can, and I doubt if the mallet is as guiltless of precipitating intracranial involvements as its advocates claim it to be. Certainly meningitis and other complications previously unsuspected have flared up promptly or tardily after operation, in sad contradiction of the claim that the patient was to be made safe by it. Cases of uncovered dura found at operation are generally cited as if nothing but prompt intervention had saved the patient; yet most admit that the pachymeningitic granulations ought not to be attacked, forgetting that they were as protective before operating as after. I have had non-operative cases in which granulations of the exposed dura, all tegmen being lost, were cautiously bitten and burned away, with healing as prompt and lasting as though a needless exenteration had been done.

Are such patients lulled to a false sense of security? Rarely by any word of mine; rather the contrary, for the not improbable need of operation has been set before them when discharged on probation. Had I resorted in their cases to a "radical cure" would they have been as likely to seek periodic supervision later. Other otologists have operated on patients whom I have tided along for years and reported the need of such intervention as urgent; but the same is said of many others who were brought to enduring cure by non-operative measures. That I see cases evidencing the mistakes or failures of some of our most esteemed colleagues does not rob me of respect for their judgment or skill. I know that these mistakes are the exception, not the rule; yet it does fortify one in maintaining his own judgment until proof is furnished that it is actually in error. Perhaps there is pus in the mastoid cells or their lining is swollen into polyp-like filling. Must every empyema of frontal or maxillary sinus have a radical operation? Is there caries present? The same probe which can demonstrate it from the canal can often curette it successfully. The parts are complex and difficult of access, but full success is not impossible. At least it is hardly for the man who has never learned how to do it, especially if he is only a fledgeling, to be too uncompromising a critic.

The effect on the hearing is generally regarded as unimportant; slight gain being more common than loss, usually slight. Yet in some of the best hands a loss was shown by rigid testing in full 30 per cent., and, while men in small series stated that as low as 5 per cent. showed loss, the summary of 639 cases available for study gives loss in 122, or 20 per cent. This is insignificant in cases in which the operation is done for urgent symptoms, but must be weighed when suppuration alone calls for intervention. Hearing after operation is rarely so good as one meter for a stage whisper; anything better is apt to be lost.

Facial palsy is very variously reported, some men counting only those cases in which it is permanent. But even the palsies ultimately recovering are distinctly to be weighed, for if they occur in the hands of experts how much more serious will they be in the work of beginners. Few operators have had Schwartze's luck of 6 in his first 30 cases, but in one of our best special hospitals there were 20 among 117 operations, only 4 being known to persist. They may clear up under appropriate treatment even after persisting a year or more unchanged, and in the future the grafting operations may give successes that are recognizable to the impartial; but this will long remain one of the positive drawbacks to lightly advised radical intervention.

Deformity is usually trivial, even when the operation is rather ruthlessly extensive or when a postauricular opening persists. Torticollis has been left, but only in cases not well cared for. Atresia of the external canal is infrequent, and chondromalacial deformity of the auricle has been seen by few operators. Unsightly widening of the entrance is of doubtful aid in securing good healing and is to be deprecated. Still more is it of doubtful wisdom to chisel extensively the uninvolved mastoid merely to get freer access to the diseased tympanic cavities. My protest in favor of the original Stacke operation is still cogent except for those too "thumby" to work in the more limited space and extend the operation only so far into the mastoid as is found to be needful. The larger surface opened to septic absorption materially increases the risk. For tympanic suppuration and caries *mastoid* exenteration is not indicated.

Summarizing the indications for radical exenteration in chronic tympanic suppuration with no intracranial symptoms, I would claim that such intervention should be advised for the expert operator when the hearing can not be improved beyond one meter for a stage whisper nor the discharge stopped nor the fetor controlled by a reasonable trial of the most thorough cleansing. This must include painstaking use of probe, forceps, curette and the intratympanic syringe, with antiseptic instillations, insufflations and drainage wicks. The reasonableness of persistence must be conditioned on the patient's ability to submit to full treatment, the general health and any such intercurrent complication, as facial palsy, stenosis of the canal by soft tissue hypertrophy or bony outgrowth, or labyrinth caries, which have been shown to indicate often a graver prognosis, as well as to furnish an additional lesion which we may hope to bring to a cure by the evisceration. Labyrinthine involvement, as shown by vertigo, nystagmus and loss of caloric reflex, electric response and bone conduction, constitutes a distinct indication for operation, as suppuration in this portion of the ear is trebly likely to involve the intracranial structures. It must be differentiated, if possible, from cerebellar disease, and especially from hysterical and other neuroses—a distinction easy in print, but often almost impossible in clinical cases. Tympanic exenteration must precede any evisceration of this vestibular apparatus, whether done for sepsis or for uncontrollable vertigo or tinnitus.

1717 Locust Street.

Lack of Playground Space in New York.—The children of New York are prisoners jailed in narrowness and literally "cabined, cribbed and confined." It is doubtful if the children of any city of the world have less scope for play and exercise.—*Hygiene and Physical Education.*

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CONTRAINDICATIONS TO THE TYMPANO-MASTOID EXENTERATION IN CHRONIC SUPPURATIVE OTITIS MEDIA *

E. A. CROCKETT, M.D.
BOSTON

At many medical meetings physicians have listened to a discussion of this subject from various standpoints, radical and conservative, without coming to a definite conclusion, and I do not suppose that any better results will be attained at this particular meeting. In fact, as one reviews his own impression of the subject, he is at first radical and then again conservative according to his experience in cases from year to year. I suppose my own standpoint may be regarded as a conservative one, and yet there are certain cases in which I believe operation to be imperative; in some of the cases in which I claim a contraindication exists it may be impossible to lay down a definite rule.

In cases of chronic middle-ear suppuration with large perforations and a very slight amount of purulent discharge, which, however, will not cease after long-continued treatment and yet which does not bother the patient either with pain or retention of secretion, a definite decision is often impossible. The operation is certainly dangerous in the hands of unskilful operators and is not entirely free from danger with the most experienced surgeon. On the other hand, the condition is seldom dangerous, and yet when it is it is almost invariably fatal. I have never forgotten an impression made on me when called one night two or three years ago to see the only child (a boy 14 years old) of a family who are friends of mine. For eight or nine years, the boy had had an intermittent purulent discharge which came from a large perforation of the drum membrane of the right ear. He had never had any symptoms from this discharge and, in fact, there was no discharge from the ear two-thirds of the time. Three or four years before, acting on my best judgment, I had advised against a radical operation, and yet when I saw him with a temperature of 105 F., with an acute attack of chills, nausea, vomiting and delirium, in fact a most evident attack of leptomeningitis, I can not say how bitterly I regretted my former advice. On the other hand, I had seen a case which also lingers too long in my memory, of a working man who had a chronic suppurative discharge from one middle ear of twenty years' duration. It could not be stopped by ordinary treatment; he had never had any symptoms indicating meningeal trouble, and I advised a radical operation on him simply to relieve him of the chronic suppuration which required him to leave his work once a week and go to the hospital for treatment. There was really no other reason for urging an operation. The operation was done as skilfully as I knew how, and the man died eight days afterward of acute purulent meningitis.

We see, therefore, from these two cases how difficult it is to be definite, either for or against the operation. There are, however, some cases in which I think we can be perfectly certain that a radical mastoid operation should not be done. In the first place, we should never forget that in certain cases a patient may value hearing almost more than life and consequently when operating on the patient's only hearing ear this becomes an important factor in helping us to make a decision.

In nearly all patients with double chronic middle-ear suppuration or with a chronic middle-ear suppuration in one ear, and the hearing in the other destroyed by some former process, a radical operation should never be advised except as an operation of last resort. I mean by that, in the presence of direct meningeal or septicemic symptoms. My reason for making this assertion is that the patient with a chronic middle-ear suppuration has become accustomed to the amount of deafness which he has and has adjusted his whole scheme of life to it. He probably gets along with the allowances made for him by his employer or friends just as well as if he had normal hearing. Moreover, there is always the chance of stopping the discharge and ultimately improving his hearing by use of ordinary tympanic treatment, and in many of these cases there is, of course, chance of improving the hearing by use of some form of artificial membrana tympani.

An operation might, it is true, immediately improve such a patient, but not to any great extent, and it might also, and more likely will, seriously injure what hearing he has. We must also, in such a case, subject a patient to a bilateral radical mastoid operation, which is, of course, a far more serious thing than a single radical mastoid operation.

Then in the case of very young children, that is children under five years of age, I believe that a radical mastoid operation should practically never be done. It is hardly possible at this age to have a chronic middle-ear suppuration which will not yield to ordinary middle-ear treatment, with the exception of the very severe surgical infections, such, for instance, as actinomycosis or tuberculosis; and in these infections a radical operation is going to be a failure as regards stopping the suppurative discharge, on account of the likelihood of infection of the skin flaps and new formed tissue in the cavity and of involvement of adjacent portions of the skull and of the petrous portion of the temporal bone. When we are positive that middle-ear treatment fails to stop the suppurative discharge in the infant or young child, it is then better, as suggested by Dr. McKernon,[1] to do a simple mastoid operation, draining the middle ear through the antrum and keeping the mastoid wound open, if possible, until the middle ear is dry, if necessary doing a secondary operation, in such a case at a later date if the ear still continues to discharge.

In a majority of such operations in children a perfect result as regards discharge and hearing will be obtained, and the child will be left with an intact drum membrane and perfect hearing. In a small proportion of cases the discharge will diminish but not cease, and two or three such operations may be required. I see occasionally now (not professionally) a young girl, now of 20 or 21 years of age, who has a perfect drum membrane and perfect hearing in an ear on which I have done four simple mastoid operations, the first seventeen years ago and the last about twelve years ago. She has had no discharge from the ear and no symptoms of mastoiditis for the last twelve years, and if she were my own child I would far rather have her subjected to several acute mastoid operations in infancy and early childhood, and then at 20 find her with a perfect ear, than I would to have one radical operation at the same period and afterward carry a totally destroyed drum membrane and practically deaf ear through life.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Trans. Am. Otol. Soc., 1907.

In addition to the fact that a chronic middle-ear suppuration in a young child is likely to heal after ordinary middle-ear treatment, or after the performance of one or two simple mastoid operations with an after-treatment which consists in keeping the antrum open until the middle ear is dry if possible, there is another great objection to performing an extenterative operation on a very young child, and that is that the anatomic landmarks are different from the adult. The facial nerve is more easily injured and lies more superficially than we are accustomed to seeing it, and it is extremely difficult for the most experienced operator to discriminate between a normal soft healthy bone of a baby and the soft carious bone of the diseased portion. If in such a case the operation is extended beyond the limits of the diseased portion and into the diploë of the normal bone, in a number of cases an extensive osteomyelitic infection of the normal bone occurs which will extend far beyond the limits of the normal mastoid.

I have reserved until the last the most difficult and important subject and the one on which there will be the most difference of opinion, namely, the question of radical operation for the relief of intratympanic suppuration of long standing in adults in whom there is shown, so far as can be seen, a normal mucous membrane of the tympanum with no evidence of granulation and no evident symptoms of necrotic process.

It is not infrequent to see adults who have carried a suppurative ear forty or fifty years and who have never had any bad symptoms during all this period. On the other hand, we have all seen cases in which an ear of this description caused unexpected trouble. I have in mind especially an adult who had such an ear for twenty-five years, and who suddenly and without warning developed a meningeal process with a fatal result. In such cases, I do not advise against operation except in that I do not advise any operation until faithful middle ear treatment has been carried out for at least six months; and I do not count such middle-ear treatment as faithful unless the ear has been persistently syringed with a middle-ear syringe, as, for instance, Hartman's cannula, and in which the cannula has been passed directly to the attic and the whole tympanic space flushed out at least once a day for three or four weeks When such careful treatment has failed to stop the suppuration, I believe that an operation should be advised unhesitatingly, but I also believe that it should not be advised except under such conditions, and it is altogether too evident nowadays that many aural surgeons advise operations in these cases without sufficient consideration of the former treatment of the case.

To recapitulate, I believe the radical mastoid operation is contraindicated:

First, unless the operator is experienced in the surgery and anatomy of the temporal bone and well-grounded in the after-treatment of such operations.

Second, it should be performed on patients with double chronic suppurative middle-ear disease except in the presence of symptoms indicating danger of patient's life.

Third, it should not be performed on a patient's only hearing ear except under the same circumstances.

Fourth, it should not be performed on young children, that is children under 5 years, under practically any conditions.

Fifth, it should not be performed on a patient with tuberculosis or syphilis except in an emergency.

Sixth, it should not be performed on any suppurative middle-ear process, of however long duration, until the ordinary forms of middle-ear treatment have been faithfully carried out for a period of at least six months, except in the presence of symptoms indicating cerebral involvement with danger to life.

226 Marlboro Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DUEL, RANDALL AND CROCKETT

DR. S. MACCUEN SMITH, Philadelphia: I am glad to find that the essayists advocate the procedure probably carried out by most of us, namely, when the examination shows a pathologic aural condition, non-operative lines of treatment are given a thorough trial, and if they fail to effect a cure surgery must be resorted to. Brain abscess or sinus thrombosis will sometimes develop without symptoms. Indeed, there are few cases that present distinct localizing symptoms that are characteristic of any one of the intracranial complications, owing to the fact that in the majority of cases more than one lesion is present. In cases in which we have had the advantage of the advice of surgeons, neurologists and medical men it has still been impossible to locate accurately a brain abscess formation. At the point of probable location of the trouble, as indicated by the neurologists, we would find nothing, but at autopsy the abscess was found on the opposite side from where it was suspected. I mention this to show how impossible it is definitely to locate many of these intracranial lesions.

In operating for chronic suppurative otitis media, I wish to call attention to a point which, in my experience, is not infrequent, to-wit, the escape of pus through the tegmen antri at the time of operation which was not anticipated.

In illustration I cite the case of a child of seven years on whom I operated this winter. The patient had had a discharging ear for five years. The child became dull at school, inattentive, rather quarrelsome, and the mental attitude was gradually becoming impaired. There was considerable discharge from the external auditory canal. On account of the mental attitude and certain symptoms of labyrinthine involvement operation was advised. After opening the cortex there was a gush of pus such as is frequently found in cases of acute empyema of the mastoid. This was followed by two other distinct discharges of pus, which seemed to escape under pressure. It required the attention of one assistant constantly to wipe away the pus. Finally this ceased and we continued the operation and found a carious opening exposing the tegmen antri and also an opening in the dura. A probe showed that this opening extended into the temporosphenoidal lobe. As the drainage had been good, we did not introduce a tube, but contented ourselves by introducing a small piece of iodoform gauze. The patient did well and improved mentally for about three weeks, when she was taken with a violent convulsion which lasted forty-five minutes, and nystagmus to the opposite side occurred. The child was taken to the operating room, the original opening enlarged, and some bone removed around this opening through the tegmen. A Jackson brain forceps was introduced into the old tract without evacuating any pus. We then inserted it anteriorly and evacuated a quantity of grayish-yellow, foul-smelling pus, almost a test-tube full. A drainage tube was introduced and again the patient progressed nicely. At the end of three weeks practically the same symptoms occurred. On exploring the two old tracts no additional pus was found. We then took away more bone posteriorly to the opening and again evacuated a quantity of pus of a similar character. After that the child recovered. I mention this case to show how, as has been pointed out here, we may have these brain abscess formations without symptoms extending over a long period of time. My conception of this case is that the first was the parent abscess cavity and that the one anterior and the other posterior were both satellite cavities arising from the former. It simply confirms the fact that has been frequently pointed out, that the deaths following operations where pus has actually been evacuated from the interior of the brain are usually due to the satel-

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lite abscess formations which have been overlooked, and not to the fact that the pus was not all evacuated from the parent abscess formation.

Dr. Randall's conservatism may be called a bold conservatism. He is radical, as are the majority of us, when it is necessary to be so, and I agree with him that we should make the younger men, especially, understand that these cases are to be treated non-surgically before resorting to surgical means. On the other hand, there are cases that require prompt operative interference. Probably the best way to prevent labyrinthine involvement is to operate before that condition can develop, as it is a most serious condition which only the ultra-expert should undertake to operate on, but I consider the treatment of double mastoiditis a matter of the greatest importance. This is especially true in young when diagnosed, an operation should be promptly performed. children, from the fact, to which I have frequently called attention, that these children will very likely become deaf mutes if anything, operative or otherwise, destroys their hearing. If only one ear is involved the importance of its possible loss is very much lessened, as the child will learn to talk in the usual way. I have seen patients up to the age of 10 or 12 years become positively mute after having suddenly lost their hearing through cerebrospinal meningitis. I recall one case, the daughter of a physician, who lost her speech, although she was 23 years old, when her hearing was from some cause destroyed. She gradually forgot how to speak and is to-day, after 12 or 14 years, a complete deaf mute.

In cases of double mastoiditis requiring operation (and now I am referring to the chronic variety) it might be well to consider the so-called Heath operation, which, however, was first performed, I believe, by Jansen. In this operation we retain the more or less necrotic drumhead and ossicles, which probably have a tendency to preserve, and possibly improve the hearing. In other words, as was pointed out by Heath, the site of the disease which causes a continuance of the suppuration is probably situated in the mastoid antrum and not, as usually supposed, in the tympanic cavity.

Dr. J. A. Stucky, Lexington, Ky.: I think that we must make a distinction between conservative radicalism and radical conservatism. One is safe and the other is not. I have had some bitter experiences in being too radically conservative, and as a result have signed four death certificates. Dr. Crockett says that he does not advise the mastoid operation in tuberculous cases. I desire to report five patients operated on in the last two years in which there was well-marked pulmonary tuberculosis, with extensive involvement of the ear, and the question of the safety of giving an anesthetic had to be considered and only partial anesthesia was deemed advisable. Yet each of these five patients made a beautiful recovery, so far as the ear was concerned, and great improvement in pulmonary trouble. One was a double radical mastoid operation. Four other cases similar to these have given just as good results. In the syphilitic cases, too, the same rule holds good. If there is locked up pus in any cavity the sooner we get it out the better.

Dr. Roy P. Scholz, St. Louis: I consider myself conservative and yet when I find cholesterin crystals I advise operation. I think operation is as necessary in these cases as in a case in which a pathologist diagnoses a section taken from a tumor, as a malignant growth. It is true a cholesteatoma is not a malignant tumor, still by its growth it plays such havoc with the surrounding structures, exposing the individual to such risk of life as to make its removal desirable. While beginning as only misplaced epidermis (epidermis growing in a serous cavity), it may become so closed off as to form a poorly drained pocket or true cyst. The accumulation of débris, together with the natural cell growth, causes a rapid increase in size of the tumor mass at the expense of the surrounding sutures. Nor should we forget another method of growth of the cholesteatoma that by budding or throwing out sprouts into the surrounding tissue each of these in turn becomes a cyst. The greatest danger of cholesteatoma is that we have to deal with a cavity, not only favorable to germ growth, but literally filled with germs of many varieties. Even though we keep the pocket empty by cleansing, the lining still remains, continuing to grow and to throw off more débris. We should keep in mind, at least when cholesterin crystals are found, the great risk to which the patient is exposed and be prepared to operate, and then very radically, on short notice. One should go far beyond the cholesteatoma mass into the healthy tissue, for fear of overlooking one of these nests of epidermic cells.

Dr. C. F. Welty, San Francisco: From some of these papers I think it is hard to find where a man stands. I accept all our indications for the radical mastoid operation that have been laid down and established. The only point at issue is that of a suppuration that doesn't improve by intratympanic treatment. If the patient doesn't recover in a reasonable length of time the condition should be operated on. In other words, patients who come to one must recover or be operated on.

I recently reported 100 radical operations. While I was in process of doing these operations 12 patients with whom I came in contact, or knew of, died because they were not operated on; 2 whom I operated on died; 1 was unconscious 24 hours before operation, and another was, perhaps, suffering from purulent meningitis at the time of operation. There were 94 cures; by cures I mean that the pus ceased to discharge. From 3 to 5 per cent. had pus that would return during the year with the accumulation of débris and after a little antiseptic treatment would recover. In 57 the hearing was improved. In 30 it remained the same and in 2 it was made worse. In 2 cases the hearing was 26 feet for a whisper; 7 patients had facial paralysis prior to operation. They all recovered but one, who died with meningitis.

In regard to tuberculosis, I stand with Dr. Stuckey absolutely. In operating on 100 patients some of them must have been tuberculous. Twelve cases were reoperations, the patients coming from other physicians. I reoperated on 5 of my own patients; 2 of them were reoperated on at different times and one is not well yet. Four years ago I saw a patient with double chronic otitis media and recommended this operation when he had an intact labyrinth. I said: "The chances are you will have an improvement of hearing." He wanted me to treat him without operation, but I told him that there was no other treatment. He came back some time afterward with labyrinthine involvement and was operated on and recovered. Another patient in whom hearing was very bad on both sides was operated on and both ears improved.

Dr. E. C. Elletr, Memphis: From what I can gather in regard to this radical operation, from a rather limited experience of my own, but a good deal of observation of the work of others, there are three points of objection to be brought against it. In the first place, it may not stop the suppuration, possibly from the presence of cholesteatoma and possibly from difficulty in healing up the mouth of the tube. A discharge that persists from the mouth of the tube should not be counted too heavily against the operation, as the patient is cured from the dangerous condition. Second, in regard to hearing, favorable reports to the contrary notwithstanding, my own observation is that the radical operation is the funeral of the ear. Third, the possibility of facial paralysis, which no amount of skill can entirely do away with.

With the Heath operation we may not stop the suppuration, which may persist from the tube which no attempt is made to close. The hearing, however, is never made worse and in a majority of cases is much improved. The membrani tympani and ossicles are not disturbed and I have seen as much as one-fourth of the drum regenerate after the operation. There is no possibility of facial paralysis, or at least no more than in the simple mastoid operation. Chronic suppuration in many cases is an antral disease. Therefore, if we drain the antrum well we will cure the suppuration. My conception of the Heath operation is that it is the application of the simple operation to chronic mastoid disease. I think that hearing is conserved by early operation in these cases. In one case of double chronic suppuration which I saw in Mr. Heath's hands one ear had been operated on by another surgeon and the child was deaf in that ear and had facial paralysis. He did his operation on the second ear and suppuration ceased, there was no facial paralysis and perfect hearing was preserved. Many members of this section have seen the excellent collection of temporal bones that Mr. Cheathle ex-

hibited in this country a year ago. A study of them will convince one that so-called osteosclerosis is not the result of chronic suppuration, but the cause of it. It is a type of infantile mastoid in which the cells have not developed.

Dr. A. R. Solenberger, Colorado Springs: Prior to six or seven years ago I never operated on tuberculous otorrheas except by simple curettments. The teaching up to ten years ago, both in Europe and in America, was distinctly against it. However, since I have been in Colorado, where we see more of these cases than in the East and not a few coming to grief, we operate, and in as radical a way as possible. The only differences in the indication for radical work between tuberculous and non-tuberculous cases is the greater consideration of the general condition of the patient, but just such and no more than we would take into account in laryngeal tuberculosis. This done, we get just as uniformly good results. Obviously many patients do not require the most radical procedures.

Dr. George E. Shambaugh, Chicago: It may seem to some that the views expressed here are over-conservative. I would refer those who have this fear to the proceedings of the German Otological Society for 1908. The statement has just been made that whenever a diagnosis of cholesteatoma is made a radical operation on the ear is always indicated. This is hardly the case. There is a vast difference in the character of cholesteatoma. We have all seen cases in which a cholesteatoma discharges itself into the external meatus and the condition is practically cured without an operation.

Dr. S. L. Ledbetter, Birmingham, Ala.: Physicians who practice in large cities and in the clinics have a class of cases that we do not have in country neighborhoods and that probably explains some of the differences of view. I am sure that while I see a number of acute and chronic middle-ear suppurations, I do not have many cases in which it becomes necessary to do a mastoid operation. If properly treated nearly all these patients recover without operation.

Dr. A. B. Duel, New York: The presence of a bacteremia in an otitis without the other conditions which might give rise to it in other parts of the body has been considered an operative indication, even in the absence of other aural symptoms. In a recent paper I showed that in a certain number of the positive cases bacteremia existed which was not accompanied by any clinical symptoms whatever of septic sinus thrombosis. Therefore, it seems to me that it would be impossible for us to accept the dictum that it can be taken as an operative indication in the absence of clinical symptoms.

Dr. B. A. Randall, Philadelphia: Dr. Duel's point should be emphasized; unless we do our intracranial operations generally as explorations we may fail to save our patients; if we wait for clear-cut indications we will often be too late. We must be fairly radical as soon as we feel that we are in the presence of intracranial complications. Abscess of the brain has been shown to be in 80 per cent. of cases immediately in relation to the diseased temporal bone, and without other localizing symptoms we are justified if not compelled to operate on such indications. I believe that some disadvantages of operation are, perhaps, more apparent than real. The facial palsy—which in my paper I, perhaps, cited in unpleasant form, referring to a hospital where 17 per cent. of cases showed facial paralysis—will often be precipitated; the palsy would have occurred spontaneously if it had not been brought on by the operation, and, while the operative palsy is transitory, the other may have been much longer. I would also speak again on the danger of the use of the mallet. I think that the lesions in the brain frequently may be ascribed to the use of the mallet.

Dr. E. A. Crockett, Boston: The principal criticism of my paper seems to be in the matter of operating on tuberculous patients. Tuberculosis of the middle ear and mastoid, not complicated by lung tuberculosis, is found more often than is generally supposed. In a ward for babies in which there are 15 beds I tried the von Pirquet test in all cases, with positive results in 77 per cent. All the mastoids operated on were tested by injecting guinea-pigs and 20 per cent. of the guinea-pigs died with acute tuberculosis. I think that tuberculosis of the middle ear and mastoid without tuberculosis of the lung is much more common than we think. All these patients do well with the simple operation which doesn't take over fifteen minutes, but if the radical operation be undertaken the children will often die of shock or sepsis. I am not against operating on the mastoid of tuberculous patients, but against doing the radical operation in these cases.

I think the technic of the Heath operation more difficult than any operation on the ear that I have tried to perform. The patients who recover with the Heath operation would recover with the old Schwartz operation in which the antrum was kept open until the middle ear was dry. When I have done the Heath operation in the other type of cases I have found the worst mess to do a secondary operation that I have ever encountered. These patients have been very difficult to treat afterward. Heath himself operated on one of my patients while she was in London last summer in July, and I have been seeing her, ever since her return for a continued suppuration, and she is in a far worse condition than any case of acute mastoid trouble that I have ever seen.

INFECTIOUS LABYRINTHITIS

TWO CASES WITH ACCOUNT OF OPERATION*

GEORGE F. COTT, M.D.
BUFFALO, N. Y.

Case 1.—Mrs. E., aged 40, weight 210 pounds.

History.—The patient had had a discharge from the right ear since she was six weeks old; there was nothing left of the membrana tympani. The condition had never given any trouble till shortly before she consulted me. She complained of having had attacks of dizziness, lasting about five minutes each. She had had little sleep for several weeks and sometimes she awakened at night with an attack. Occasionally she vomited, and at times she became nauseated as soon as she awakened. She had also had attacks of fainting.

Examination.—The patient was pale and hysterical. On deep pressure there was pain, principally over the antrum. As soon as the caloric test was begun she screamed and became greatly excited; this test demonstrated some nystagmus. There was impaired coordination, and loss of hearing. Here it was necessary to discriminate between symptoms due to disease of the labyrinth and those due to hysteria. Revolving produced such dizziness that I could not turn the chair half around. Air pressure produced no effect at all.

Operation.—Ordinarily, in such a case as this, I should have hesitated to operate, but in view of the fact that the symptoms complained of were probably subacute following a latent period, I thought it best to give the patient relief at once. Membranes and ossicles were gone. A radical operation was first done; then a great part of the horizontal canal was removed and part of the inferior vertical canal also. I then chiseled behind the knee of the facial canal and entered the vestibule; a probe was then passed from the oval window to the operative field, thus establishing good drainage.

Postoperative History.—After the canal was opened, cerebral fluid began to flow more rapidly than gauze would absorb, but after the operation was completed gauze packing lessened the flow perceptibly; for two days, however, the patient felt it trickling down the Eustachian tube. Five weeks after the operation the patient felt well, though there was some facial paralysis. The ear was perfectly dry.

Case 2.—Miss B., aged 16, a school girl.

History.—The patient's mother died of tuberculous laryngitis, and two sisters had tuberculosis of the bowels. The patient had had a discharge from the left ear since she was ten weeks old, which of late had become intermittent. She had been treated from time to time by different specialists, but without result, and had been told that she would probably outgrow it by the time she was fourteen.

Present Illness.—On May 29, 1906, she had earache, and on the following day she had a severe chill. Three days later she became dizzy and had headache. Ten days after the first at-

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tack she had another chill on the train coming to the city and in my office had another severe chill, the temperature going up to 104 F. There was also deep-seated pain on pressure.

Operation.—Operation was done at 9 p. m. the same night. I found a membrane consisting mainly of epithelium and pus cells lining the antrum. Bone was destroyed over the lateral sinus and a quantity of pus was removed from under the dura. The girl made a good recovery and left the hospital in two weeks.

Subsequent History.—Two years later this patient came to my office complaining of dizziness. She was unable to stand without feet apart; was dizzy on waking, and her hearing had been gone for several years. I kept her under observation for two weeks but no improvement was noted.

Diagnosis.—In cleaning out the ear some cheesy matter was removed which proved to be a quantity of cholesteatoma; this led to a decision in favor of operation. Here was a latent labyrinthitis followed by a subacute condition which would certainly cause further trouble.

Second Operation.—The same operation was performed as in Case 1, except drainage of the vestibule. The lateral sinus having been perforated, it became necessary to plug it, and consequently it was difficult to remove enough bone to make room for the chisel to work under the facial canal, so there was no communication made with the vestibule, but the promontory was chiseled away aand thus drainage established through cochlea, and canals.

Result.—The patient left the hospital in two weeks, still suffering from vertigo. I have seen her several times since and found her in good health, though with occasional headaches and sometimes some dizziness.

In both of these cases I might have waited for succeeding attacks, for in both cases there was labyrinthitis, while the organ of Corti had lost its function years ago through the disease of the middle ear, without producing any of the acute labyrinthine symptoms, unless they were entirely overlooked. When cholesteatoma is present, however, there is always danger of infecting the labyrinth, and one is justified in draining the internal ear.

DIAGNOSIS

These patients complain of great dizziness, moving of objects in one direction and sensation of body movement in opposite, usually going around, nausea and sometimes even vomiting. There is spontaneous nystagmus toward both sides. After two or three days (perhaps weeks, depending upon virulence) they enter the second stage, and nystagmus is toward the diseased side only; dizziness continues, irritability of the semicircular canals is increased and hearing is plus. If resolution does not take place the disease enters on the third stage. Nystagmus is then toward the sound or healthy side, vertigo is still present, irritability decreased and hearing is lost. After a few days nystagmus again becomes of equal degree on both sides in the fourth stage but dizziness is absent, irritability of the semicircular canals and hearing are gone. When nystagmus ceases the fifth stage is entered on, in which nystagmus, vertigo, irritability and hearing are all absent. (The normal ear has no nystagmus or dizziness, irritability normal and hearing plus.)

If the caloric test is applied in the third stage no reaction is noticed. This verifies the diagnosis of destruction of the labyrinth.

The first two stages, which show increased irritability to diseased side, belong to the variety called perilabyrinthitis. The change in nystagmus to the sound side and lessened excitability of the semicircular canals are distinctly endolabyrinthine. The first two stages of perilabyrinthitis may be, and in the majority of cases are, due to a fistula or circumscribed disease of the bony canal, while in the three last stages the disease becomes diffuse and always finally destroys hearing.

If the disease is checked, instead of going through these regular stages, it becomes latent, to be succeeded sooner or later by a second or third attack, and so on. When the symptoms are not so severe as above described, and the patient is able to walk, he usually walks with the feet wide apart to keep from falling; the feet are placed in the same position when standing still. When they are placed together, that is, the sides touching each other, the patient usually inclines toward the affected side and, with the eyes closed, will fall toward the diseased side. This will be more marked when the patient is trying to stand on one foot, but more especially so when the foot employed is the one on the diseased side. After all these symptoms have passed off and the patient has entered the latent stage there still are means to ascertain the status of the disease, for the patient may believe himself perfectly well.

At first then we have the perilabyrinth affected but when through a fistula or carious process the endolabyrinth becomes involved and the process having been slow we get symptoms of approaching destruction of the semicircular canals which invariably affects the cochlea also, dizziness gradually vanishes. However, dizziness exists so long as nystagmus is directed to one side alone. As soon as the labyrinth becomes affected there are vertigo and disturbance of equilibration.

Barany says: These symptoms may be due to other causes but when they are of vestibular origin we can alter the fall of the patient by changing the position of the head; the patient is not conscious of the fact that he is not performing the test normally and can not retain his equilibrium by touching a stationary object.

Labyrinthine vertigo may and often does come on even during sleep, (the vertigo sometimes is so severe that nausea is produced, and even vomiting) or on rising from the bed or on performing any rapid movement of the head and lasts from a few minutes to half an hour or more. Slight attacks lasting from a few seconds to several minutes do not necessarily signify endolabyrinthitis but may be noticed in the latent stage and therefore are suspicious. Sometimes external causes affect a diseased labyrinth markedly, such as rapid movements of the head, stooping and rising, drinking spirits, or smoking and are accompanied by nystagmus. In vertigo, not labyrinthine, the patient often complains of everything getting dark and involuntarily closes the eyes, but this variety does not come on during sleep. Therefore the cardinal symptoms of suppurative labyrinthitis are spontaneous nystagmus, vertigo, increased irritability of the canals, or decreased if the endo-sac is involved.

In the latent stage, a patient may be examined at the office and even in the acute stage he is often able with a little assistance to call on his physician. The actions of the patient are peculiar in every case. He may waddle as though topheavy, instead of walking, his feet may be far apart and, he may state that everything is going around or that he is moving around the room and the furniture seems to remain still. He may walk steadily but when attempting to stand on one foot, on the side of the diseased ear, he will fall always toward the side of the disease. Von Stein's test of jumping backward is favorable only in some patients

and during the latent stage. When one can make use of it the patient will jump backward with separated feet deviating from a straight line, such deviation being toward the diseased side and the energy with which the patient begins jumping becomes markedly less with the fourth or fifth jump.

If one side is normal, it may be tested and found to produce on turning, nystagmus up to forty seconds, possibly but thirty or even only twenty-five seconds. Whichever it is, the diseased ear, will be much more than normal. If the endolabyrinth is involved the opposite will be the rule. Whatever the normal is, the diseased side will be lower by more than one-half, as perhaps from five or eight to thirty.

When the patient has become hysterical from long suffering with suppuration or anxiety, the caloric test may call forth a scream and violent sobbing, this must not draw the attention of the physician from the real work in hand; also revolving an hysterical patient seems almost intolerable and puts him or her into a terrible fright.

The caloric test is applied with water that is above or below the body temperature. A few ounces in a Politzer bag is thrown into the ear against the upper wall of the meatus through an attic nozzle; it takes one or two minutes to empty the bag; the eyes looking straight ahead are watched and nystagmus is soon observed.

The revolving test is simple and can be carried out in the office while the caloric test may be used at the bedside. It has been found that turning a patient ten times on a revolving chair gives most accurate results.

Barany says: After rotating neurasthenics, they will complain that the vertigo produced is more violent than the spontaneous variety but on bending the head forward during the turning no difference will be noticed.

In a fistula or circumscribed inflammation of the vestibular tract rapid head movements produce more violent dizziness than in hysterical patients. It is even possible by throwing the head backwards to produce nystagmus toward the affected side with vertigo (perilabyrinthitis).

The table of Alexander presents graphically the five stages of labyrinthine infection. The first two stages refer to perilabyrinthitis and the last three to endolabyrinthitis always due to suppuration of the middle ear. A tumor of the auditory nerve would present the same condition. The otologist sees the patient in any of these stages. The disease may stop at any stage and become latent for awhile then start up again, and so on.

To recapitulate: Revolve patient ten times toward the left when the right ear is affected, and, on stopping, nystagmus will be toward the right side, that is the slow movement of the eyes toward the left and the rapid movements toward the right side. Nystagmus above normal as compared with the healthy side indicates perilabyrinthitis. If the movements of the eyes are below normal say from five to ten seconds only, it indicates endolabyrinthitis.

In the caloric test, cool or cold water if injected into the affected ear in the second stage will produce nystagmus toward the good side. Hot water will also produce nystagmus but to diseased side. Air-pressure nystagmus with the Politzer bag, according to Barany, when perceptible, and the caloric test is positive is indicative of fistula.

In using galvanism, the anode in front of the right ear, 10 to 12 milliamperes, produces rotatory nystagmus toward the left while the cathode will have the opposite effect.

It is difficult to maintain the body erect when placing one foot before the other (Jansen). Standing on one or both feet with eyes closed is practically impossible (Rhomberg), and often the patient stands with feet apart to keep from falling.

Dizziness occurring during sleep and on rapid movements lasting a few minutes to thirty or more is a valuable diagnostic sign.

INDICATIONS FOR OPERATION

In acute suppuration of the labyrinth, when there is vertigo, nystagmus to good side, and decreased irritability, fever, headache, foul secretion, pain in mastoid or periosteal abscess, the radical operation is first performed followed at the same sitting by removal of semicircular canal or canals and drainage through the oval window.

If the patient is not in immediate danger we may wait until the more acute stage has subsided, then both operations should be done at once; for in just these cases if the radical operation only is performed, postoperative meningitis is most liable to occur.

TABLE OF ALEXANDER

Stages.	1	2	3	4	5
Spontaneous nystagmus	Toward both sides.	To diseased side.	To good side.	Toward both sides.	Gone.
Vertigo	Present.	Present.	Less.	Going.	Gone.
Irritability of semicircular canals.	Increased.	Increased.	Decreased.	Less.	Gone.
Hearing	Plus.	Plus.	Gone.	Gone.	Gone.

In fistula or the circumscribed variety of labyrinthitis middle ear exenteration often causes healing without touching the canals or vestibule. If diffuse symptoms follow, the labyrinth must be drained.

Hearing must be taken into account. When it is bad or gone the cochlea must not be considered at all; when good it is better to hesitate, for the patient may recover, as the disease has not yet reached the inner side of the sac. If the patient's hearing is bad in the healthy ear and better in the diseased, drainage of the vestibule or destruction of the canals must not be considered because hearing is always destroyed by the operation.

Alexander's rule is never to operate on a labyrinth when there is hearing or when there is normal or increased irritability of the vestibular apparatus.

So long as a fistula or even exterior caries keeps the condition circumscribed and hearing is conserved the radical operation alone is often sufficient. When, however, hearing has already been destroyed there is no reason for sparing the vestibule or canals and thus taking chances on recurrence or new lighting up of the labyrinth infection.

To drain by the vestibule alone seems to me to invite further trouble unless it is distinctly shown that a fistula exists, perhaps through the promontory, or the cochlea that is carious. When infection has entered through the oval window there is every reason to believe that it is better to drain the canals as well as the vestible. At any rate, whichever operation is decided on, the patient should be closely watched for several weeks and if necessary the more extensive operation should be done.

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RESULTS

I believe with others—Politzer, Jansen, Alexander, Neuman, Barany, etc.—that the operation is not in itself dangerous but patients often die from too long delay. The results ought to be uniformly good barring complications.

Serous labyrinthitis sometimes occurs after a radical operation which has most of the symptoms of the suppurative variety with deafness to all sounds but the high forks, and recovery is complete in a week or ten days, without interference.

Intercurrent attacks no doubt occur in fistula or as a forerunner of later and more severe infections.

1195 Main Street.

ABSTRACT OF DISCUSSION

DR. J. HOLINGER, Chicago: Before we irredeemably destroy a patient's labyrinth, we ought to make a more careful examination of the real condition. For example, Dr. Cott says: "The first patient complains of dizziness for a short time and is sometimes awakened in the night with an attack." All these things can be produced by simple occlusion of the tube. For instance, I saw a woman of 34, four times, at intervals of one week, and every time she had these same symptoms, dizziness, vertigo, vomiting, headache, swelling over the mastoid, pain on pressure. She could not stand on her feet; could not walk from the bed to a chair. On simple inflation with the Eustachian catheter she was relieved and without help walked back to her room. Afterward a surgeon was called and he promptly operated. Six weeks after that I saw the patient again, the wound was not healed, and all the symptoms were just as before. I took her to the hospital and gave her about eight catheterizations of the tube. Her condition improved promptly. I repeat, therefore, that all symptoms the Doctor mentioned do not prove affection of the labyrinth, and do not justify its destruction. They may be caused by occlusion of the tube.

In the second case there is nothing said as to the findings of the drum dead, nothing as to the pulse and temperature. Therefore, we unfortunately are not able to judge whether the Doctor's diagnosis and indications for operation are correct. The proofs of labyrinthitis in these cases I do not think have been given. The hearing tests are absolutely left out and I think if we want to know anything about the labyrinth we must have complete hearing tests.

DR. COTT: There was no hearing.

DR. HOLINGER: Hundreds of people have been treated as deaf mutes and then we find they do have considerable hearing after proper tests are made. I do not believe that from this paper we can get clear ideas on the subject. We have to study and digest carefully every point of this difficult question. The paper shows that the whole question of surgery of the labyrinth is much more complicated than it looks at first sight. The entering of the labyrinth with our instruments destroys every function of this most necessary and interesting organ, it involves a mutilation of the patient which ought not to be undertaken unless every means have been tried to avoid it. Conservative methods will often preserve a useful quantity of hearing otherwise destroyed in over-zealous attempts at radical surgery which is not indicated in slowly progressing chronic suppurations, since they usually have time enough to limit themselves.

DR. J. R. FLETCHER, Chicago: I have read the presessional print and listened to the reading of this paper. It is one certainly not to go unchallenged. The essayist speaks of labyrinthitis without the presence of labyrinth symptoms, or if present, overlooked. They must have been overlooked, as nystagmus, at least, is always present, from the very beginning of a labyrinthitis. Some form of labyrinthitis can be diagnosed from this symptom alone, when the disease follows a chronic suppurative otitis media. In the initial stage of labyrinthitis, and so long as it remains circumscribed, attacks of nystagmus will occur, varying in duration and severity. The quick movement is directed to the diseased side and not to both sides, as stated by Dr. Cott. When the irritability of one labyrinth has been decreased by the disease becoming diffuse, the nystagmus changes its direction to the sound side, but can at this time be reproduced toward the diseased side also by irrigating the tympanic cavity with warm water; the nystagmus directed to the sound side, however, will be the stronger. Spontaneous vestibular nystagmus directed toward both sides is of intracranial origin. Usually the nystagmus of intracranial origin is directed to the diseased side. The difference between nystagmus of intracranial and that of labyrinthine origin is that the intracranial appears relatively late in the disease. When the nystagmus, after changing from the diseased to the sound side, at the time of destruction of the labyrinth, swings back to the diseased side, meningitis or abscess in the posterior fossa may at once be diagnosed.

In all these cases the nystagmus is of the rhythmic vestibular type, as contradistinguished from the undulating, or ocular type. The rotary element is always present, though the nystagmus may be compound, that is involving more than one plane. The important symptom of nystagmus is sometimes overlooked because the eye is not observed in the extreme lateral position. The nystagmus may be so slight that unless this is done it is not seen. If we remember that one of the characteristics of the vestibular type is that it is increased by looking in the direction of the quick component and decreased or stopped completely by looking in the direction of the slow component, the symptom will not be overlooked. Before Bárány insisted on thus examining the eyes, a number of competent observers had reported the absence of nystagmus in cases in which it must have been present. It is on this account, and because of my great interest in the subject that my remarks have been confined to nystagmus. The mention of the presence of nygstagmus without stating its direction and plane is of no value.

DR. PHILIP D. KERRISON, New York: Dr. Cott's paper seems to me to be in some respects misleading, and for the following reasons: In the first place, the symptoms he recounts in the two histories given are not those usually regarded as justifying a diagnosis of labyrinthitis; and, second, the operation described in connection with the second case is not generally held to be advisable. In discussing these histories, we must consider what positive symptoms are mentioned, and their value as pointing to labyrinthitis.

In Case 1, the patient was a woman, 40 years old, pale and hysterical. As positive symptoms we are told that (1) "she had had attacks of dizziness," (2) she had occasionally vomited and (3) there had been attacks of syncope. She had no spontaneous nystagmus. Attacks of dizziness without nystagmus are not characteristic of labyrinthitis. Vomiting is usually a symptom of the onset, continuing fairly constantly for a day or two, then stopping wholly. Attacks of syncope are decidedly not characteristic of labyrinthitis. In this case the caloric test was followed by great excitement and screaming, and also caused nystagmus and disturbed equilibrium. The excitement and screaming are characteristic of hysteria, while the nystagmus and ataxia must be regarded as evidence of an intact labyrinth. The symptoms in this case do not indicate suppurative labyrinthitis.

In Case 2, a girl of 16 years, on whom a mastoidectomy had been performed two years previously, came to the office complaining of dizziness, and could not stand except with feet well apart. There is no mention of spontaneous nystagmus; and no caloric test was made. Rotation produced nystagmus; it always does if one labyrinth is intact. If in this case the caloric reaction had been tested and found absent, we would have had something to go on. As it is, I can find no symptoms justifying a diagnosis of labyrinthitis.

In Case 2, Dr. Cott, owing to an accidental opening of the lateral sinus, did not open the vestibule, contenting himself with opening the cochlea by removing the promontory wall. This is not considered ever to be justifiable. Hinsberg, Jansen, Neumann, Bárány, Richards—all who have done recognized work in labyrinthitis—agree that the vestibule should always be opened. This constitutes one of the first essential points of the operation, its importance resting on two facts, viz.: (1) that it secures free drainage from the vestibule, which is always involved in suppurative labyrinthitis, and (2) that it enables the surgeon to destroy the membranous structures of the vestibular

apparatus, which is an essential point in controlling permanently vestibular symptoms.

Dr. S. MacCuen Smith, Philadelphia: When it comes to treatment, I believe, as in all other cases, the first thing is to make our diagnosis, and this, notwithstanding our tests, is often very difficult to accomplish in this class of cases. In some instances it might appear that these patients would require operation, and yet a great many will recover spontaneously if we perform the radical mastoid operation and then treat the case by more simple methods, so that, notwithstanding Dr. Cott's brilliant results, I would offer a plea for considerable conservatism in most of these cases, especially at the hands of those more or less inexperienced in this line of work. I was interested in noting that the majority of his cases come from the recurrent type of suppurative otitis media. In my experience, the majority of intracranial complications arise from this particular form of disease.

Dr. George Shambaugh, Chicago: This discussion has brought out several points which it is well to have emphasized. The first is that the interpretation of labyrinth symptoms and the correct diagnosis of labyrinth conditions is by no means a simple matter. To make such a diagnosis, a clear understanding of the physiology and of the pathology of the labyrinth is necessary. The second point that the discussion has emphasized is that the practice of otology is a good deal more than the application of the principles of general surgery to the mastoid region. To carry out successfully the surgical measures necessary to relieve complications in and about the mastoid, the middle ear, and the labyrinth, requires not only skill in carrying out the difficult technical examinations of the ear, but requires also an intimate acquaintance with the complicated anatomic relations of this part. The tendency of the general surgeons to undertake aural surgery is to be deprecated for the reason that they are not trained in otologic technic and can seldom make an accurate diagnosis, nor have they as a rule mastered the anatomic details of this region, without which serious injuries are readily caused.

Dr. Otto Glogau, New York: It is important to have all or at least most of the symptoms before we consider operation on the labyrinth indicated; nystagmus, impairment of hearing, disturbances of equilibrium, dizziness, nausea, fever, etc., and it is especially important to have the tuning fork test. I would like to mention one case in which all the symptoms were present and yet there was no suppuration of the labyrinth. They were the so-called pressure symptoms. The indication for operation was there and only by opening the neo-membrane which had formed in place of the destroyed drum and the evacuation of the pus was the diagnosis made. It is probably not well to be too conservative. I saw one patient who had been operated on for mastoiditis and after a few weeks developed symptoms of labyrinthitis. The man was not examined properly and by three physicians a diagnosis was made of cerebral tumor. I operated on the patient's labyrinth and now, some months after, he is all right. I would impress on you that in the Mount Sinai Dispensary we now examine every case of suspicious chronic suppurative otitis media for the so-called labyrinthine symptoms, which are very important because often we can detect a starting involvement of the labyrinth before there is a more serious complication. When all the symptoms have developed it is almost too late for treatment. I think it would be very interesting if every case of chronic suppurative otitis media were examined in this way.

Dr. F. I. Brown, Chicago: I would like to speak of a case somewhat parallel to the one reported by the last speaker. It is impossible to judge from any one case just what should be done. We must have a collection of cases before we can arrive at any definite conclusions. This was a case which would have been put down as one of operative labyrinthitis. A radical mastoid was done and in three months' time the patient came back for internal operation. During the interval there was no cessation of symptoms but they all progressed steadily and the man begged for relief. The second operation gave immediate relief. I was present at both of Dr. Cott's cases. It seems to me that with a rapidly progressive perilabyrinthitis Dr. Cott was justified in operating. The great lessons for us to learn are not so much when to operate as when it is best not to do any operation at all on the middle ear without at the same time operating on the internal ear.

Dr. B. A. Randall, Philadelphia: One will find that with the personal equation that is so important in the examiner there is also a large personal equation in the examined, and hysterical and other elements may largely complicate the findings; and one need but turn to the studies in the Vienna Otologic Society to see that these men who rank as experts find many difficult cases and that it is not all plain sailing for them. The matter is difficult and will remain so.

Dr. G. F. Cott, Buffalo: I wish to thank the gentlemen who criticized me most severely and most adversely. It is a good stimulus and will help a man to do better work. Dr. Brown and I went into these cases very thoroughly during the last eight months and were satisfied with what we were doing and that it was right to operate. I simply wanted to give an idea in my paper how to make a diagnosis in these cases of infectious labyrinthitis due to suppuration of the middle ear. Dr. Kerrison has given a paper on this subject which took into consideration almost the entire category of symptoms. I therefore left out most of the theoretical part.

Dr. Holinger claims that these symptoms may be present with Eustachian tube occlusion; that is impossible, so far as the labyrinthine vertigo is concerned. I know of two patients treated expectantly because of the mistaken idea that the symptoms might be due to some other cause and both patients died. Perilabyrinthitis and endolabyrinthitis have absolute and definite symptoms and must not be mistaken for anything else.

Jansen is the only man who has had any great experience with suppurative labyrinthitis, having operated over 100 times with a death rate of 29 per cent. Such a mortality will be cut down very much with the more definite symptoms to guide us.

I do not lay any stress on temperature; the probabilities are that one will have no rise of temperature or a very little. I am familiar with the work in Vienna, having visited that city last year and gone over the matter thoroughly. As to the cholesteatoma deciding the diagnosis, it did not, but it decided that if I did not operate the patient would sooner or later succumb. I did not drain the vestibule in this young patient because after I had punctured the lateral sinus I could not remove enough bone to lay the vestibule bare; therefore I took off a part of the posterior and horizontal semicircular canals and opened through the oval window. This course was justified, as the result shows.

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PEMPHIGUS NEONATORUM, OR BULLOUS IMPETIGO CONTAGIOSA OF THE NEW-BORN*

O. H. FOERSTER, M.D.
MILWAUKEE, WIS.

Pemphigus neonatorum was first described as an independent disease by Oehme in 1773. Previous to that time it had been confounded with syphilis, and until almost the middle of the last century there were many who still considered it as syphilitic in origin. Writers on the subject gave prominence to the bullous character of the affection, to its frequent occurrence in epidemics—especially in obstetric wards, foundling asylums, and in the practice of midwives—and to its variable course, benign in some instances, and in others presenting an alarming mortality. The latter observation early led to its division into a benign and malignant form. The possibility of a transference of the disease from infants to other children or to adults was also noted, and many writers observed that transmission to older children or adults resulted in a decided change in the clinical character of the affection. This alteration in character is striking; it appears strange that it has

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not aroused more attention until a comparatively recent date.

Although many instances of an association of pemphigus neonatorum and impetigo contagiosa have been recorded, the possible identity of the two affections has not been given sufficient prominence in English dermatologic literature. In fact, a review of recent contributions to this subject shows that many entirely overlook or disregard the existence of any relation between the two diseases, so that a discussion of the question at this time is justified.

Pemphigus neonatorum is a contagious disease which affects the new-born at a variable period after birth and is characterized by the rapid development on various parts of the body surface, usually on an erythematous base, of more or less numerous flat vesicles or semiglobular bullæ with clear or purulent contents, which rupture readily, leaving a moist, red, smooth, generally circular defect in the uppermost layers of the epidermis, usually with extensive undermining at the periphery, and which heal without a scar; any constitutional symptoms, if present at all, being a result of the denudation of extensive portions of the body surface, or due to supervening infection, rather than an integral part of the disease.

It often appears in epidemic form, especially in foundling asylums, obstetric wards, or in the practice of midwives; and isolated instances of its appearance are frequent. The recognition of a benign and a malignant form is based on the observation that in some instances but few lesions develop and a correspondingly small extent of the cutaneous surface is involved, constitutional symptoms are entirely absent, and rapid healing occurs; while in other cases the disease develops with extraordinary rapidity and affects almost the entire cutaneous surface, the infant succumbing often within a day or two after the first manifestations of the disease. It is a remarkable fact that in these rapidly fatal cases there is often but little evidence of constitutional disturbance. Evidences of constitutional involvement are occasionally found, however, in a rise of temperature, diarrhea, or symptoms of general exhaustion.

Fehling[1] says that the appearance of fever is indicative of complications, such as furuncles, abscesses, and follicular intestinal catarrh.

Among the cases that have contributed to the establishment of the so-called malignant form, in which constitutional symptoms are generally present to a marked degree, are many that do not properly belong here, as they are bullous exanthemata occurring in the course of septic conditions. Such are the cases of Staub,[2] in which the mother had pyemia; Peter,[2] in which the mother suffered from puerperal sepsis, and the *Staphylococcus aureus* and *albus* and a diplococcus were found in the circulating blood of the infant, and Prissmann,[3] who remarks that his case of malignant gangrenous pemphigus neonatorum may be a genuine septic process.

Bullous eruptions in the new-born appearing in the course of septicemic conditions originating in the infected umbilicus are likewise to be excluded from among the cases of pemphigus neonatorum, as they are also septic eruptions. Trautenroth's[4] case of pemphigus neonatorum periumbilicalis, in which a ring of bullæ surrounded the purulent remains of the cord, is the result of local infection and probably similar in nature to impetiginous lesions that form about the mouths of children with a purulent nasal secretion.

The disease at one time appeared in epidemic form very frequently; asepsis and antisepsis are responsible for its comparative rarity at the present time, though occasional reports of small epidemics are found in recent literature. The contagious character of the disease was recognized early, and there is no lack of reports of its occurrence in epidemics. An epidemic of "pemphigus acutus," affecting ninety-four infants in the Leipsic Obstetrical Clinic, was reported by Moldenhauer[5] and was in all likelihood a continuation of an epidemic of "pemphigus contagiosus" reported by Klemm,[6] in which twenty-six cases occurred, chiefly among older children. From the description of the epidemics it can reasonably be assumed that they were instances of impetigo contagiosa. Faber declares that, had impetigo been known as such, these would have been called impetigo.

The epidemic described by Almquist,[7] in which of 216 children born in the maternity at Göteberg during a period of three and a half months 134 developed pemphigus neonatorum and none died, was probably in largest part impetigo contagiosa. Small epidemics without fatalities have been described in this country by Kilham.[8]

In 1890 Knut Faber observed a case of pemphigus neonatorum that was directly traceable to an impetigo contagiosa on the face of the mother; another infant, nursed by the same woman, developed pemphigus neonatorum and caused an impetigo contagiosa on its own mother's face. In an analytic paper on the reported cases Faber[9] declares the two diseases to be identical, and the variation in the clinical manifestations dependent on the age of those affected. Jonathan Hutchinson[10] observed an epidemic in the maternity of a workhouse, which was called "pemphigus" by the house physician because of "its distinct vesicating character." He concluded, however, that "the cases are of the same nature as those to which the term impetigo contagiosa has been given." Matzenauer[11] likewise considers pemphigus neonatorum and impetigo contagiosa to be identical diseases. He observed that pemphigus neonatorum developed in an infant whose mother was affected with impetigo contagiosa. Carefully conducted bacteriologic and histologic examinations of both diseases gave identical results.

Grindon[12] reports a fatal case of impetigo contagiosa bullosa, the infant having contracted the disease from the father, who was affected with impetigo contagiosa. The clinical description is entirely that of a malignant form of pemphigus neonatorum. "Besides the father, a brother, aged 4, a sister, aged 3, and the nurse in attendance on the infant contracted the affliction in typical form."

A most exhaustive study of the literature of pemphigus neonatorum has been made by Richter,[13] who concludes that pemphigus neonatorum appears to stand in etiologic connection with impetigo contagiosa.

1. Fehling: Arch. f. Gyn., vi, 388.
2. Staub: Berl. klin. Wchnschr., 1893, p. 49. Peter: Berl. klin. Wchnschr., 1896, p. 124.
3. Prissmann: Petersburg. Med. Wchnschr., 1903, p. 503.
4. Trautenroth: Dissertation, Marburg, 1892.
5. Moldenhauer: Arch. f. Gyn., 1874, p. 369.
6. Klemm: Deutsch. Arch. f. klin. Med., 1871, p. 199.
7. Almquist: Ztschr. f. Hyg., 1891, p. 253.
8. Kilham: Am. Jour. Obst., 1904, p. 473.
9. Faber: Monatsh. f. prakt. Dermat., 1890, p. 253.
10. Hutchinson: Arch. Surg., 1892, iii, 296.
11. Matzenauer: Wien. klin. Wchnschr., 1900, p. 1077.
12. Grindon: Jour. Cutan. Dis., 1901, p. 190.
13. Richter: Dermat. Ztschr., 1901, p. 507.

Whitfield[14] observed the development of a lesion of impetigo contagiosa on the forehead of a mother two days after her child had become affected with pemphigus neonatorum. Pemphigus neonatorum and impetigo contagiosa are considered by him as identical.

Engmann[15] speaks of "eight cases of typical bullous impetigo in infants," and appears to believe in the identity of the two diseases.

Hengge[16] describes a small epidemic in which the original source of infection was the lochial discharge of a mother, vesicles and small furuncles developing in the anal cleft. This woman's child developed pemphigus. The wet-nurse contracted the disease on both breasts and transmitted it to two other infants. A fourth child exhibited in clinic (to demonstrate the compression of the skull following delivery through a narrow pelvis) in conjunction with one of the pemphigus cases, two days later developed an eruption of pemphigus vesicles limited to the scalp. In the first five cases numerous small furuncles developed one to three days after the vesicular eruption, and in the two cases these were the most prominent part of the clinical picture. In all six cases the *Staphylococcus aureus* was found in pure culture in the vesicles and furuncles. Hengge remarks that the combination of pemphigus neonatorum and furunculosis points to an intimate relation between pemphigus neonatorum and impetigo contagiosa.

Others (among them Löwly, Luithen, Clegg and Wherry) have contributed similar observations, and there now appears to be sufficient evidence at hand to warrant insistance on the proper recognition of pemphigus neonatorum as simply a bullous infantile variant of impetigo contagiosa and elimination of the confusing term "pemphigus" when this affection is under discussion.

Of especial interest is the occurrence of epidemics in families, for under these conditions the variation in the clinical picture of the infection as it assumes the characteristics of impetigo contagiosa or those of pemphigus neonatorum are best observed. Among the many reported instances of contagion in families Grindon's[12] observation of the development of pemphigus neonatorum in an infant whose father was affected with impetigo contagiosa and spread of the impetigo to two other children, as also the development of typical impetigo contagiosa in the nurse (who presumably contracted the disease from the infant), is a most striking evidence of the identity of the two diseases. Within the past six years I have had the opportunity of observing thirty-four cases of pemphigus neonatorum. In several instances members of the family or the nurse in attendance developed typical lesions of impetigo contagiosa on the arms or the face—an infection undoubtedly attributable to contact with the infant.

Olson[17] directs especial attention to his observation that the lesions in the infant first appeared on the neck and at the border of the pectoralis major muscle—regions which were pressed by the arms of the midwife, who probably conveyed the infection; and also, that the primary lesions were located on the midwife's forearms, on which the child rested during its bath. Although most of the cases observed by me occurred in the practice of midwives, among whom it is customary to attend personally to the infant's bath, I was never able to trace such direct connection.

14. Whitfield: Brit. Jour. Dermat., 1903, p. 218.
15. Engmann: Jour. Cutan. Dis., 1901, p. 180.
16. Hengge: Monatsschr. f. Geburtsh. u. Gyn., 1904, xix, 53.
17. Olsen: Abstr. in Centralbl. f. Dermat., 1900, p. 137.

Experimental inoculations, performed to reproduce the disease or for bacteriologic purposes, have been frequently made, and almost exclusively on adults. Direct inoculations with the contents of blebs have resulted in the formation within a variable number of hours, on an erythematous surface, of single vesicular lesions, with clear contents rapidly becoming turbid, and often pustular, and drying into crusts. Numerous inoculations have been made with pure cultures of micro-organisms obtained from the lesions, with varying results. In some an erythema was produced at the site of inoculation, others succeeded in producing vesicles or blebs. Engmann[15] inoculated into the skin of his arm the third generation of a pure culture of *Staphylococcus aureus* obtained from cases of typical bullous impetigo in infants. "Within two days a clear vesicle had formed . . . from which was obtained a pure culture of the . . . same organism inoculated."

Several inoculations into the skin of my own arm of the serous and purulent contents of blebs from cases of pemphigus neonatorum, and one inoculation of a pure culture of *Staphylococcus pyogenes aureus* grown on blood serum, were uniformly negative.

Midwives as carriers of the infection have received the attention of most writers, and, in fact, the majority of the recorded epidemics occurred in the practice of midwives or originated there. Moldenhauer,[9] in his report of the epidemic previously mentioned, in which 96 infants were affected, instances infections by midwives in the institution. Dohrn[18] reports that a midwife had 27 cases among 114 births and carried the infection to a maternity in another city. Wichmann[19] reports 22 cases of infants delivered by the same midwife. Zechmeister[20] observed an epidemic affecting 28 of 76 infants delivered by a midwife, who continued to spread the disease for more than a year. Almquist[7] reports 7 cases in 21 infants born under the care of one midwife; Platon,[21] 25 cases; Jukowsky,[22] 12 cases; Brosin,[23] 18 cases in a total of 64 confinements by two midwives.

In the United States this mode of spread is less frequent. Corlett[24] reports 2 fatal cases in the practice of one midwife. I have had the opportunity to observe 34 instances of the disease in Milwaukee. Four occurred in the practice of one midwife, 2 in the practice of another, and most of the remaining 28 were isolated cases in the practice of various midwives. During my attendance on these cases I learned of numerous other instances of the disease, usually in the practice of the same midwife who had attended the confinement of the mother volunteering the information. Milwaukee is a city with a large proportion of German and Polish inhabitants, who are very partial to midwives. Of the total of 7,546 births in the city during 1904, 4,354 were reported by midwives and 3,192 by physicians, which may account for the relative greater frequency of pemphigus neonatorum in Milwaukee. One midwife informed me that she had been "followed by the disease" for several months in spite of all her attempts to overcome the infection. After she had provided herself with entirely new clothing and a new obstetrical outfit the disease disappeared from her practice.

18. Dohrn: Arch. f. Gyn., 1876, p. 580; 1877, p. 567.
19. Wichmann: Abstr. in Arch. f. Dermat. u. Syph., 1888, p. 423.
20. Zechmeister: München. med. Wchnschr., 1887, p. 737.
21. Platon: Abstr. in Centralbl. f. Dermat., 1900, p. 137.
22. Jukowsky: Abstr. Brit. Jour. of Dermat., 1891, p. 368.
23. Brosin: Ztschr. f. Geburtsch. u. Gyn., 1899, p. 418.
24. Corlett: Am. Jour. Med. Sc., 1894, p. 413.

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The persistence of the disease in institutions and the practice of midwives for prolonged periods is an evidence of the ability of the causative agent to resist ordinary destructive influences. Reports of the tenacity with which it adheres to wearing apparel are furnished by Scandinavian writers. Wichmann[19] traced the origin of an epidemic in which 22 infants were affected to the woolen mittens of a midwife, in which the infective agent was harbored for a long period. During this epidemic five persons were infected by the use of the same sponge. Holst[25] also attributes the origin of an epidemic affecting five children to the midwife's infected woolen mitten. The midwife had had three cases of pemphigus neonatorum, after which the mitten was put away for a year. Shortly after it was used again the new case developed. Erichson[26] relates the case of a midwife in whose practice pemphigus neonatorum was epidemic. The health board insisted on a thorough disinfection and provided her with new clothing; the discarded garments were packed in two boxes. The epidemic ceased, but after a time reappeared. It was found that one box had been broken open, and Erichson believes that the disease started afresh whenever the midwife removed an old dress from the box. Experiments conducted by Almquist[7] proved cultures of the micro-organism obtained from bullæ, when dried on silk threads, to be viable after one and one-half months.

The frequency with which pemphigus neonatorum occurs in the practice of midwives, and its frequently high mortality rate, have led some writers (Zechmeister,[20] Hengge,[10] Bloch[27]) to advocate compulsory notification of the disease by midwives, and the immediate report of all births attended by midwives who have recently had cases of pemphigus neonatorum. The revised Prussian text-book for midwives (1900) instructs the midwife concerning the contagious character of pemphigus neonatorum and makes it obligatory to report at once to the district physician any case occurring in her practice.

Some sort of municipal control ought to be established over the disease as it appears in the practice of midwives. It is desirable, in my opinion, to secure the establishment of a municipal ordinance requiring midwives to notify the health authorities of all cases of pemphigus neonatorum appearing in their practice and the immediate report of all births attended by midwives who have recently had cases of the disease.

Although a large majority of the cases encountered are benign in character, the disease in some instances shows a mortality rate that is appalling. Zechmeister reports 28 cases, with 6 deaths; Wichmann, 22 cases, 3 deaths; Janovsky, 12 cases, 4 deaths; Brosin, 18 cases, 7 deaths; Platon,[21] 25 cases, 12 deaths; Host, 5 cases, 2 deaths. Of the 34 cases observed by me 5 ended in death. A disease which at times has a mortality rate of between 10 and 50 per cent. and which is to a large extent preventable is a proper object for municipal control.

Numerous attempts have been made to associate a definite micro-organism with the disease as its causative agent. The results of different investigators are, however, not in accord. The *Staphylococcus pyogenes aureus* in pure culture in the contents of vesicles or bullæ has been found by Hengge, Brosin, Löwly, Maguire,[28] Call, Engmann and Matzenauer. Almquist isolated a diplococcus from the contents of the bullæ, which in its growth on artificial media closely resembles the *Staphylococcus aureus*, but when inoculated into the skin produces bullæ. He considers this organism to be the causative agent and named it *Micrococcus pemphigi neonatorum*. Clegg and Wherry[29] made a bacteriologic study of five cases in the Civil Hospital at Manila, and in all cases isolated the micro-organism described by Almquist. Inoculation of the skin with the organism resulted in the production of several small vesicles. Some investigators, Bloch, Whitfield[14] and McLeod[30] have found the *Streptococcus pyogenes* in pure culture.

In those of my cases in which material for bacteriologic examination was obtainable, the *Staphylococcus pyogenes aureus* was found in pure culture. In the case of an extremely marasmic infant of six months, weighing but five pounds, numerous flaccid bullæ of quarter-dollar size, with semipurulent contents, developed rapidly in various localities. Pure cultures of *Staphylococcus aureus* were obtained. Within twelve hours several bullæ became hemorrhagic and their bases were converted into a pulpy mass, forming deep, punched-out ulcers. Numerous small tense bullæ then appeared, all with hemorrhagic contents. Cultures showed the presence of the *Bacillus pyocyaneus*, rapidly overgrowing the *Staphylococcus aureus*. The infant ultimately recovered, although the postcervical, axillary and inguinal lymph glands sloughed, and portions of the skull, ribs and sacrum were exposed in the floor of the ulcers.

At the present time it appears impossible to bring any one organism into causal relation with the disease.

A similar condition of uncertainty exists in connection with the bacteriology of impetigo contagiosa, which may be produced by either the common staphylococci or streptococci—most often by the former.

Leaving out of consideration the failure of bacteriology definitely to establish the identity of pemphigus neonatorum and impetigo contagiosa, there appears to be enough other evidence at hand to warrant classing them as identical diseases. To the anatomic and physiologic differences between the skin of the new-born and that of older children and of adults can be ascribed the variation in clinical appearance. With increasing age of the child an almost parallel decrease occurs in the severity of pemphigus neonatorum—as regards the extent of surface involved, number and character of the lesions, their rapidity of evolution—and the disease presents progressively less danger to life. It assumes the characteristic features of impetigo contagiosa, among which is the tendency to crust formation. Pemphigus neonatorum can only be regarded as a bullous, infantile variant of impetigo contagiosa, and not as an independent disease.

The treatment of greatest efficiency in my experience is, with some modification, the same as that which may be regarded as specific in the impetigo contagiosa of adults. The vesicles or bullæ are drained, the edges of the lesions are thoroughly exposed, and the entire base is freely anointed with 2 per cent. ammoniated mercury ointment. The lesions are dressed with gauze and cotton, and individually thus isolated. Mercurial intoxication has not occurred in my experience, even when extensively denuded areas were treated in this manner. To secure asepsis of the uninvolved surface the infant is bathed in a warm permanganate solution and sponged with the solution whenever the dressings are changed.

25. Holst: Centralbl. f. Dermat., 1900, p. 136.
26. Erichson: Centralbl. f. Dermat., 1900, p. 137.
27. Bloch: Arch. f. Kinderh., 1900, xxviii, 61.
28. Maguire: Brit. Jour. Dermat., 1903, p. 427.
29. Clegg and Wherry: Jour. Infect. Dis., March, 1906, p. 165.
30. McLeod: Brit. Med. Jour., 1903, p. 1278.

External heat with strychnin and brandy in full doses are indicated as supporting measures if the disease is at all extensive.

128 Wisconsin Street.

ABSTRACT OF DISCUSSION

Dr. John A. Fordyce, New York City: It does not seem to me that sufficient attention has been given to the investigations of Sabouraud, which led to the conclusion that these lesions were due to the streptococci and not to the staphylococci. His inoculation experiments invariably gave a growth of streptococci. Afterward the lesions became contaminated with the *Staphylococcus aureus*, and mixed infection resulted. The clinical history of these cases point to a definite and distinct entity, different from the ordinary staphylococcus infection. We are indebted to Dr. Foerster for calling our attention to the identity between acute contagious pemphigus of the newborn and the impetigo contagiosa of older children.

Dr. Douglas W. Montgomery, San Francisco: I have long thought that in this bullous form of impetigo contagiosa the formation of bullæ was due to the fact that the skin of the baby is very tender, and furthermore, to the heat to which these children are often exposed. I am led to believe that in warm countries impetigo contagiosa in adults is more liable to assume a bullous form, than in cooler climates, like San Francisco. I have long believed that these two affections, acute contagious pemphigus and impetigo contagiosa, were identical. In San Francisco we do not often see acute bullous impetigo, but we do see pemphigus neonatorum. In the Philippines and in other hot countries bullous impetigo is common in adults.

Felix Lewandowsky of Hamburg, in a recent number of the *Arch. für. Dermatologie*, has reported a large number of cases of impetigo contagiosa in which the causative agent was the streptococcus, not the staphylococcus. I think that in all probability, from the nature of the disease, that it will be found to be of streptococcus origin. It would be very remarkable if the staphylococcus would give rise to such marked disease entities as impetigo contagiosa and bullous impetigo.

Dr. M. B. Hartzell, Philadelphia: I think since we all agree that these cases are really impetigo contagiosa occurring in very young infants, we ought once and for all to dispense with the name pemphigus neonatorum. I recently saw a small epidemic of this in a maternity hospital. In this epidemic, the eruption was originally regarded as bullous syphilide. A number of these babies died: I think in practically 50 per cent. of those attacked there was a fatal termination. I have seen very large bullæ in adults. That is probably a matter of the severity of the original infection and the nature of the soil. The very delicate soft skin of the new-born infant apparently offers a suitable soil for the growth of the infecting organism.

Dr. C. F. Knowles, Philadelphia: There has recently been an epidemic of thirty cases of this affection in one of the public institutions in Philadelphia. Of the infants attacked, ten died. Cultures showed streptococci in some of the lesions, staphylococci in others.

Dr. W. A. Pusey, Chicago: Last winter there was an epidemic of impetigo contagiosa of the new-born in the maternity ward of one of the hospitals in Chicago. In a group of 16 cases there was a mortality of over 30 per cent. In my opinion, it is as irrational to hope to identify one definite pus organism in these pus infections of the skin as it is in pus infections generally. I have no doubt that impetigo may be produced by all of the different kinds of common pus organisms.

Dr. George Pernet, London, Eng.: I have long been familiar with the identity of pemphigus neonatorum and impetigo contagiosa. Many years ago I was asked to see a child with a supposed bullous syphilide. I found instead a bullous form of impetigo contagiosa, while three other members of the family had evidences of impetigo lesions about the face. In the ambulatory cases of this affection the patients generally recover, and I have not seen many cases that terminated fatally. This may be different in institutions, but in ordinary hospital practice and in the out-patient department one does not find that these are very bad cases, as a rule.

Before Sabouraud labeled the streptococcus as the causative factor, I examined several of these lesions and always found the streptococcus. Sabouraud insists that we must get a very early pin-point lesion and from that get the streptococcus, and I think that is generally admitted, although he also insists on cultivating the germs on a fluid medium, while I cultivated them on a solid medium. If the organism be cultivated in bouillon, there will often be a general formation, but that does not label the organism as a streptococcus. It is generally accepted that these lesions are of streptococcus origin, although Matzenauer of Vienna did a lot of work on the subject and states that he has found the staphylococcus. I am inclined to agree with Dr. Pusey that a variety of pus-producing organisms may lead in some cases to impetigo contagiosa, as well as to other forms of bullous lesions. I recall reporting a household infection of this kind that followed pediculosis, with a development of bullous lesions in several of the cases.

MONGOLIAN IDIOCY*

HERBERT E. SMEAD, M.D.

Professor of Pediatrics, Medical Department, Toledo University; Attending Physician, Robinwood Hospital

TOLEDO, OHIO

Several years ago I was called to attend a male child about 8 months old, suffering at the time from acute bronchopneumonia. This child had a peculiar facial conformation which then attracted my attention. Some weeks after my first acquaintance with him I saw another, somewhat older, but having such a remarkable resemblance to the first that it was difficult to believe that they were not brothers. These children were mental defectives of the Mongolian type. Since that time I have seen about thirty of these children in practice and in institutions in this country and in Europe. I wish now to discuss in particular this class of cases, which is comparatively common among us, although it frequently passes unrecognized.

In 1866 Dr. Langdon Down described a condition which was characterized by features which bore a remarkable resemblance to those of certain Mongolian races, particularly to a type indigenous to certain parts of Siberia, known as Kalmucks. On account of this resemblance he suggested the name Mongolian, or Mongoloid.

I wish to emphasize certain differential diagnostic features for the reason that I have known Mongolians to be mistaken for cretins by more than one good physician. In conversation with Dr. E. J. Emerick of the Ohio State Institution for Feeble-Minded Children I was told that Mongolian idiots repeatedly entered his institution with a diagnosis of cretinism. The recognition of Mongolism is important, in order that we may guard against dangers to which the child is peculiarly susceptible, and not discredit thyroid therapy by administering it where little benefit can be derived. The distribution is world-wide; no race is exempt. According to Shuttleworth, 5 per cent. of mentally defective children are Mongolian. In our own state institution I understand that the percentage is not so high.

As to the causes we know very little. From some resemblances to cretinism it has been suggested that it might be due to some vice in the thyroid function. Other observers state that it is most often seen in the last children of large families, or where the parents are over 40, or where the reproductive powers of the parents are impaired. This, however, is denied by many authorities. Alcoholism, tuberculosis, syphilis, and other disorders have been considered, but with few definite conclusions. They are evidently unfinished children and

* Read before the Academy of Medicine of Toledo and Lucas County, May, 1908.

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the Mongolian features are possibly an example of atavism.

I shall consider first the most conspicuous characteristics. In a typical case, even at birth, there is a peculiar facial resemblance to a Chinese child; even a layman will often speak of it. This is due to the presence of an inner epicanthic fold and an obliquity, upward and outward, of the palpebral fissures. The bridge of the nose is flat and this causes the eyes to appear far apart, when in reality they are close together. The nostrils look forward; strabismus and nystagmus are common. In early life the skin is smooth and white. The cheeks are often ruddy. In smaller children, also, the hair is soft, straight and abundant. The ears are small and the lobules adherent. The mouth is open and the tongue often protrudes; this latter, I presume, is the chief reason for the commonly mistaken diagnosis of cretinism. The tongue is fissured and the circumvallate papilli are red and hypertrophied. The next characteristic that is seen constantly is the brachycephalic skull; this is nearly always seen. It is often so pronounced that the vertex, occiput and neck are all in the same plane. Goodhart and Still state that the skull is usually less than normal in circumference. Dr. John Thompson of Edinburg described some peculiarities of the hand which he considered quite constant. This consists of a shortening and incurving of the little finger. Dr. John Muir found this absent in 46 per cent. of his series. This deformity has been found to be not uncommon in all forms of idiocy. The fingers are all shorter than normal and taper at the tips; this in contradistinction to the stumpy finger-tips of cretins.

In addition to physical characteristics which are more or less constant, these children have frequently the various deformities of the imperfect and many of the stigmata of degeneracy. They are, when grown, short in stature; there is a deficiency of muscular tone and strength, and the limbs are soft and small-boned. Coordinate movements are not acquired early; the grasp is feeble; the child may not hold up its head until seven or eight months old, and not sit alone until a year and a half or two years old, or walk until four or five. The sutures are late in closing; the teeth are slow and irregular in developing; not uncommonly a molar may appear before the incisors. As in all mental defectives, speech is late in developing; the child may not talk until four or five years old. Such children are anemic and susceptible to diseases of the respiratory and gastrointestinal tract. Especially are they liable to pneumonia, bronchitis and later to pulmonary tuberculosis. A subnormal temperature as a rule exists and they are easily chilled. Dr. A. E. Garrod of London speaks of the extreme frequency of congenital heart disease among Mongolians. The mental development is very interesting. One might be misled into a too favorable prognosis unless made wary by experience. Mongolians are nearly always amiable and happy. If in a hospital they become the pets of the ward by reason of their cheerful dispositions. They are imitative to a marked degree. At this point I would like to suggest that this trait of imitativeness might be considered another point of similarity to the Chinese and Japanese races, among whom mimicry is a very marked trait. By reason of their cheerfulness and mimicry they are often given credit for more mentality than they really possess. They are always mentally dwarfed. The degree of mental deficiency varies with the subject. Some subjects with a proper education acquire a fair degree of intelligence; these, however, are the border-line cases. In the average case the reasoning powers remain at a low level.

The vital prospects are bad. Before adult life many succumb to tuberculosis or pneumonia. There is little in the pathologic anatomy which is characteristic. Some observers speak of central changes, such as antero-posterior shortening at the base of the skull and imperfectly developed occipital lobes, the whole brain being more coarsely convoluted than normal and having fewer secondary convolutions. Wilmarth reports five autopsies in which the brains were all of fair size, the pons and medulla being unusually small in all cases.

There is no specific medical treatment for Mongolism. Thyroid therapy is useless, although at first there is a slight apparent improvement. As to mentality, if advantage is taken of the child's ability to imitate, something may be accomplished. Much may be done to teach habits of cleanliness. Careful feeding, exercise and fresh air must be furnished to aid a constitution of feeble resistance to avoid and throw off disease. The approach of puberty is always an anxious period in the life of any mental defective and care should be exercised in reference to the abuses of the animal instincts when awakened. On account of the importance of a diagnosis, both of Mongolism and cretinism, I wish to emphasize graphically as possible the chief differential features of both these conditions.

COMPARISON OF CRETINISM AND MONGOLISM

CRETINISM	MONGOLISM
1. Characteristics seldom present before six months.	1. Present at birth.
2. Dull, passive infants, taking no notice of anything or any one. No active movements.	2. Smiling, active infants, imitative and observant.
3. Skin swollen and dry. Fat pads above the clavicle. Hair coarse and scanty.	3. Skin soft and fine. Hair straight, soft and fine in early life.
4. Skull normal in shape.	4. Skull brachycephalic.
5. Palpebral fissures horizontal, lids swollen, epicanthus not present.	5. Palpebral fissures narrow and oblique, no swelling of lids, epicanthus present.
6. Tongue protruding and swollen.	6. Tongue protruding but not swollen.
7. Lips thick and everted.	7. Lips normal in shape.
8. Fingers short and stumpy.	8. Fingers short and tapering. Little finger short and curves inward.
9. Thyroid absent or atrophied.	9. Thyroid normal.
10. Thyroid treatment beneficial if used in early life.	10. Thyroid treatment of no use.

REPORT OF CASE

Patient.—The child whom I wish to describe is a peculiarly attractive boy, 4 years of age, the sixth child in a family of seven. His brothers and sisters, of whom five are living, are all healthy, normal children. His mother was 35 years old when he was born, his father 38. During pregnancy his mother was not as well as with her other children; she had a cough during a considerable part of the time and was not so strong as usual.

History.—At birth the child weighed 8½ pounds. Labor was normal in every respect. Very soon after birth the family noticed a peculiar expression about the eyes, but the obliquity was not noticed until the boy was 7 or 8 months old. He was nourished at the breast, was in good health and developed normally until 8 months old, at which time he suffered from bronchopneumonia. Since that time he has taken cold easily and has had repeated attacks of acute bronchitis. He was able to hold up his head at about three months, but his neck seemed weak; this was more noticeable after his pneumonia. He was not able to sit erect until he was a year old. He did not creep or attempt to do so until he was 2, but would sit quietly and contentedly wherever he was placed; after this he began to creep and when 2½ years old he began to walk. One of his most noticeable traits is his happy, amiable disposition. His mother states that he is the best-natured child in the family; seldom quarrels with his brothers and sisters; even if imposed on, does not seem to resent it. He is

not selfish and is willing to divide with the other children. He is cleanly in his habits and not destructive with his toys. The imitative trait mentioned previously is very noticeable; his parents spoke of it independently of any questioning. He imitates many of the actions of his parents and playmates with surprising accuracy, and is even now learning much of his speech by imitating his sister, who is but 2 years of age. He has a decided taste for music and takes much delight in playing with the piano. His speech is very imperfect; he speaks only a few words connectedly; he finds difficulty in making sentences longer than three or four words. His wants are made known chiefly by nouns; verbs he uses with difficulty.

Physical Examination.—Child, 37 inches tall; weight, 33¼ pounds. Complexion fair, hair straight and of fine texture, fontanels closed. Circumference of the head 19 inches, meatus to meatus 14 inches. Nose broad at base. Distance between eyes 1¼ inches. Epicanthus present. Palpebral fissures oblique. Nystagmus present and marked. No fat pads in axillæ or supraclavicular regions. Mouth held open, tongue protruding, but not swollen. Lungs normal at the present time. Heart normal. Little fingers both shorter than normal and curve inward.

Thyroid treatment has never been tried, the case being so clearly one of Mongolism that I felt it would be folly to use it.

810 West Central avenue.

NOTE.—The following authorities may be consulted on the subject:
Taylor: Nervous Diseases in Childhood and Early Life.
Thompson: Clinical Examination and Treatment of Sick Children.
Goodhart and Still: Disease of Children.
Holt: Diseases of Childhood.
Koplik: Diseases of Infancy and Childhood.
Barr: Mental Defectives.
Ireland: Mental Diseases of Childhood.
Pfaundler and Schlossman: The Diseases of Children.
Allbutt: System of Medicine, viii, 236.
Waterson: Brit. Med. Jour., 1906, ii, 1701.
Neurath: Wien. med. Wchnschr., 1907, lvii, 1132.
Reavley: West. Canada Med. Jour., 1907, i, 450.
Baumann: Transvaal Med. Jour., 1906, ii, 107.
Sutherland: Practitioner, London, 1904, lxxiii, 821.
Sutherland: Lancet, London, 1900, i, 23.
West: Arch. Pediat., 1901, xviii, 918.

A CASE OF SUCCESSFUL REMOVAL OF A CEREBELLAR TUMOR *

THEODORE DILLER, M.D., AND OTTO C. GAUB, M.D.
Neurologist and Surgeon respectively to the Allegheny General Hospital
PITTSBURG

In a recent study Schuster, of Berlin, finds that about 15 per cent. of intracranial tumors are situated in the cerebellum.

In his work on brain surgery, published in 1893, Dr. M. Allen Starr collected 16 cases of cerebellar tumor in which operations had been done. In 11 of these cases the tumor was not found; of the other 5 patients, 3 died from the operation, and 2 cases the tumor was removed and the patient relieved. Writing again ten years later,[1] including his own personal experience up to that time, Dr. Starr collected 1,277 cases of brain tumor; of this number, he regarded 104 as operable. Among these 1,277 cases he found 58 cases of operations for cerebellar tumors. Dr. Starr gives table of operations for brain tumor (Table 1):

TABLE 1.—STARR'S TABLE OF OPERATIONS FOR BRAIN TUMOR

	No. Cases.	
	Cerebrum.	Cerebellum.
Tumor found, removed, and patient recovered	154	16
Tumor found, removed and patient died	52	8
Tumor found, but could not be removed	22	12
Tumor could not be found	91	22
Total	319	58

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Starr, M. Allen: Organic Nervous Diseases, 1903.

Writing only two years later, in 1905, Mills and Frazier were able to collect reports of 116 cases of cerebellar tumors in which operations had been performed; and they estimate that in 15 per cent. of these cases there was "removal with recovery."

Dr. Frazier, from a study of these 116 cases, has constructed the following table:

TABLE 2.—FRAZIER'S TABLE

	Per Cent.
Tumors found	45
Tumors not found	55
Removal with recovery	15
Removal with improvement	13.9
Removal without improvement	0.9
Improvement without removal	13.9
No improvement without removal	13.9
Death when tumor was removed	12.9
Death when tumor was not found and removed	28.7

Comparison of statistics of successive dates, showing an increase in the percentage of recoveries and improvements and a reduction in the mortality, is given in Table 3.

TABLE 3.—COMPARISON OF STATISTICS OF SUCCESSIVE DATES

Results.	Frazier's Table—1904. Per Cent.	Duret's Table—1903. Per Cent.	Oppenheim's Table—1902. Per Cent.
Recovery	15	14	7.5
Improved	28	25	7.5
Unimproved	15	0	13.0
Mortality	42	60	71.0

A comparison of the statistics of the total number of cases in Frazier's collection with the statistics of the last five years shows a manifest improvement in the results as illustrated by Dr. Frazier in Table 4.

TABLE 4.—RESULTS IN FRAZIER'S TOTAL NUMBER OF CASES COMPARED WITH CASES IN PAST FIVE YEARS

Results.	Total Number of Cases. Per Cent.	Cases Reported 1899-1904. Per Cent.
Recovery	15	24
Improved	28	28.5
Unimproved	15	11.0
Mortality	42	35.8

Dr. Frazier remarks:

From a review of these tables one is struck at once with the progress that has been made in this field of surgery from every point of view. The percentage of tumors is yearly growing larger, the percentage of partial or complete recoveries is larger, and the mortality has fallen from 42 per cent. to 35.8 per cent. We believe that the results of surgical intervention on the cerebellar hemisphere will continue to improve, if not generally, at least in the hands of those who are giving this subject especial thought and attention.

We have gone over the table of 116 cases of cerebellar tumor collected by Dr. Frazier; and in doing so we are not able to note quite as high a percentage of cases in which the tumor was found and the patient recovered. From the study of this paper it appears to us that 10 per cent. of recoveries would be a fair allowance as against 15 which Dr. Frazier figures out. But these tables do indicate in a striking way that the mortality from the operations has been considerably reduced and the percentage of recoveries considerably increased in the last few years. In six cases in which Dr. Frazier operated the results were as follows:

One died after the first stage of operation; two recovered after removal of tumor; one relieved after evacuation of cyst, no recurrence more than a year after the operation; one considerably improved after palliative operation; one no improvement; tumor not found.

Dr. Harvey Cushing, of Baltimore, as is well known, has made a number of special detailed studies of the operations for intracranial growths; being anxious to learn of his experiences in cerebellar operations up to

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date, we wrote to him, and he kindly responded with the following letter which sufficiently explains itself:

The following summary is complete so far as I can tell from a fairly careful survey of the hospital files and my own private records. I have never had occasion to look these things up before as an especial group and there may be a few omissions.

I have had thirty cases of known or presumed cerebellar tumor which have been subjected to the bilateral suboccipital operation which I favor through a "cross-bow" incision with permanent removal of the bone.

In this series there have been two deaths that can be directly attributed to the operation, both of them among the early cases, one patient with a vascular tumor of the vermiform process operated on in a comatose state, who died from hemorrhage into the fourth ventricle; the other a patient with a benign cerebellar pontine endothelioma, who died from pneumonia on the seventh day. This was before the adoption of the cerebellar table with the shoulder-supports. These are the only cases in which there has been any operative complications of any kind. The wounds in all other cases have healed per primam.

In eleven cases the tumor has been found and removed, or a simple (?) cyst evacuated.

Intracerebellar.—More or less solid tumors, three; cysts evacuated, four.

Extracerebellar.—Four.

Tumors found and considered irremovable, with no improvement after simple decompression, two.

Tumors not found, the operation resulting in a simple suboccipital decompression, twelve.

In two cases from the latter group I have operated some months later at a second session and found and evacuated an intracerebellar cyst on each occasion. One of the patients was operated on elsewhere and a solid tumor, which was not apparent at the time of the first operation, was found and removed.

It is my feeling that with a proper face-down position on a suitable operating table, with a skilled anesthetist and with a low operation with removal of the posterior half of the foramen magnum so as to get below the lips of the cerebellum and evacuate fluid before the dura is freely opened, these cases, contrary to the opinion that has been expressed by others, are favorable, if not more favorable, for operation as lesions of the cerebral hemisphere.

It is earnestly to be hoped that Dr. Cushing will, before long, publish his experience with cerebellar tumors in detail. For certainly the results he has attained should inspire us all with a more hopeful view of cases of this character.

In view of the experience of the immediate past these records of Frazier and Cushing are certainly most striking and noteworthy ones. And they abundantly indicate that there is a fair measure of chance for these poor patients suffering from cerebellar tumor when they are operated on by skilled surgeons who are specially trained for this work and who have their hearts in their work.

But not all investigators are able, like Frazier and Cushing, to see that the results of cerebellar operations are growing more favorable; and this other side of the case is well shown by Knapp of Boston.

Knapp[2] has made several studies of brain tumor from the standpoint of the operation. In a paper published recently (1906) he concludes from the study of 104 autopsies of brain tumor that only four were anatomically accessible and presented enough clinical symptoms so that they might have been localized for the purpose of an operation.

Knapp presents the following tables of operations undertaken for the removal of brain tumors of all sorts:

2. Knapp: Boston Med. and Surg. Jour., Feb. 1, 1906.

TABLE 5.—KNAPP'S TABLE OF PERCENTAGE OF FAILURES TO FIND GROWTH

	1889.	1891.	1899.	1905.	Total
Removed	18	28	265	160	471
Not removed	5	10	115	59	189
Percentage of failures	22	26	30	27	29

TABLE 6.—KNAPP'S TABLE OF PERCENTAGE OF FAILURE TO REMOVE

	1889.	1891.	1899.	1905.	Total
Removed	18	28	265	160	471
Not removed	6	20	224	107	357
Percentage of failures	25	41	46	40	43

Besides the cases of operations for cerebellar tumors recorded by Mills and Frazier, several additional cases have come under our notice as follows:

Stewart[3] reports forty cases which he has analyzed. Wharton Sinkler[4] also reports three cases. In two instances an operation had been performed. In these two cases one patient, who had a cyst, recovered. He was in perfect health seven months after the operation. Dercum[5] also discusses the subject.

Martens and Seiffert[6] report the case of a boy of 13 on whom an operation was performed for removal of a cerebellar tumor. The patient died after a few hours. An autopsy revealed a tumor, a large glioma, in the fourth ventricle.

Savage[7] furnishes notes of eleven cases, ten of which were relieved by trephining.

Funkenstein[8] reports five personal cases as follows: (a) patient died from operation; (b) patient died without operation; a solitary tubercle on the right auditory nerve; (c) neurofibroma on the auditory and facial nerves; (d) sarcoma of the cerebellum; (e) encephaloma of the left posterior fossa.

Becker[9] reports a case of tumor removed from the left pontocerebellar angle. The patient died in three hours after the operation. A beautiful plate shows the tumor *in situ* and another, the brain with the tumor removed.

W. B. Warrington[10] reports a case of an operation for the removal of a cerebellar tumor. The tumor was not found and the patient died. An autopsy discovered a sarcoma the size of a pigeon's egg in the right lobe pressing on the middle of the medulla.

Poppert[11] reports one case of successful removal and one of a partially successful removal. From one patient a woman, aged 28, a tumor was removed from the cerebellum, and four weeks later, at the time the report was made, she was doing well and greatly relieved, although the operation was done too late to improve the eyesight.

B. Sachs[12] reports three cases of cerebellar tumor in which operations were performed. Two of the patients succumbed. In the third case the patient was greatly relieved, although the tumor could not be found at the operation. He remarks: "Cerebellar surgery is in a sad plight." He believes that "the cure of cerebellar tumors is difficult to attain except in a small proportion of cases," but he believes that much relief may be afforded by trephining operations.

Ascoli[13] reports the case of a boy, aged 14, with cystic gliosarcoma in the right lobe of the cerebellum

3. Stewart: Brain, 1904, p. 522.
4. Sinkler, Wharton: Three Cases of Cerebellar Tumor, THE JOURNAL A. M. A., Sept. 26, 1908, li, 1057.
5. Dercum: Jour. of Ment. and Nerv. Dis., 1906, p. 169.
6. Martens and Seiffert: Berl. klin. Wchnschr., Aug. 10, 1908.
7. Savage: Berl. klin. Wchnschr., Aug. 10, 1908.
8. Funkenstein: Mitt. a. d. Grenzgebi., xiii, 1732.
9. Becker: Deutsch. Arch. f. klin. Med., lxxxix, p. 6.
10. Warrington, W. B.: Med. Chron., 1905, p. 144.
11. Poppert: Deutsch. Med. Wchnsch., 1907, No. 15, p. 613.
12. Sachs, B.: Med. Rec., Dec. 22, 1906.
13. Ascoli: Corriere San., Milan, xviii, 172.

3 cm. from the surface and a little anteriorly. Two operations were done two days apart. The tumor was not removed entirely. The patient died fifteen days later.

He reports another case[14] of a woman, aged 23, who was operated on early in August, 1906, for cerebellar tumor. No tumor was found at the operation, but a few drops of pus of tuberculous character was discovered. By the middle of August the symptoms again became exaggerated. The patient died September 20. An autopsy revealed a tuberculous node in the left cerebellum and a tuberculous area on the surface on both sides of the medial lobe superior.

With this brief survey of the literature, we desire to give the clinical and pathologic records of a case observed by us, in which a tumor was removed from the cerebellum, the patient surviving the operation and exhibiting complete relief from headaches and vomiting and very great improvement of vision and considerable improvement in his gait.

The patient was admitted to the Allegheny General Hospital Jan. 4, 1909, having been referred to Dr. Diller by Dr. J. J. Emmens, of Somerset, Pa., who had previously made the diagnosis of cerebellar tumor.

CASE REPORT

Patient.—A single man, aged 20. His father is supported by charity. At the age of 2 the patient was given out by the Children's Aid Association to a farmer. He was healthy and strong and after he grew up did good work about the farm. At the age of 18 he secured his release and wandered about a good deal; and it is thought he was rather wild. Six months ago he returned to the farm. For some time before his return he had been suffering from headaches; and soon after he came back to the farm he fell quite a distance from a hay wagon and struck his head. But it appears he had headaches before this accident. Three or four months ago the headaches became very severe and very frequent. For three weeks past he has had very severe headaches located at the top of the head and pain running down the spine. His head now became drawn forward and to the left. He became intolerant of light; and his pupils were dilated. He had lately been subject to many dizzy spells and very marked right-sided sweating. There has been no fever. Hearing in the right ear is somewhat impaired. He is still able to read the newspaper.

Examination (Dr. Diller).—The posture at once commands attention. The patient's head is bent forward on the chest and drawn toward the left and rotated on its axis toward the right. Efforts to straighten it up cause great pain. He assumes this position to relieve himself of pain. He walks in a slow, laborious fashion with feet wide apart; his gait is very weak and uncertain. But he can walk the length of the ward with a little assistance. Four or five times he staggered so that he had to be supported, and at times he always staggered toward right. At a subsequent test he staggered to the left two or three times. He is generally weak and wretched, but I find no particular palsies of the trunk, arms or legs; and I note no cranial nerve palsies. In a mental way he exhibits nothing significant except that he is overly quiet and subdued and has a desire to be let alone. He is perhaps a little dull.

Eyes: There appears to be marked neuroretinitis in the right eye. I could not get a satisfactory look at the left eyeground.

Ears (Dr. Barndollar): Examination is negative. Hearing in both ears is normal.

Diagnosis.—The case appears to be one of cerebellar tumor. The evidence as to which side of the cerebellum is involved does not seem clear.

Course of Disease.—Jan. 18, 1909. Dr. Heckel found 5 D. of swelling in each nerve—double optic neuritis. The patient has had several attacks of vomiting at the hospital. His headaches appear to be very severe and are located chiefly at the back of the head. His head is rotated to the right side, but pushed forward to the left.

January 26: Ben's headaches continue to be severe and he complains that his eyesight is rapidly failing; that he can hardly see to read at all, even large print.

This unfortunate man presents a most pitiable sight. Sitting up in bed, with his head drawn forward, his manner and appearance indicate the truthfulness of his assertion that the head pains are unceasing and very severe most of the time. He has vomited frequently and obtained very, very little sleep since he entered the hospital because of the pain. The poor fellow gladly welcomed an operation, although its serious character was made plain to him.

Operation (January 27).—Dr. Gaub operated today, exposing both lobes of the cerebellum. The right lobe was found more protruding than the left and softer in consistency. About one-third or one-half of this lobe was cut away and the finger thrust forward to the anterior margin of the cerebellum; and a tumor was withdrawn somewhat almond-shaped and about as large as a hickory-nut. The patient stood the operation well, but the night following the operation his pulse became very rapid, going up to 190 by midnight; and for several hours it was more rapid than this and could not be properly counted. By the next day it was down to 136; but the pulse has continued to be more or less rapid even up to the present time (March 16).

DESCRIPTION OF OPERATION BY DR. OTTO C. GAUB

The patient was placed on his left side and a sandbag placed under his head. He was supported in this position by means of a reinforced plaster bandage passing around the upper part of the right arm and attached to an ordinary leg-holder. This posture gave a fair operative field and was comfortable to the patient, owing to his fixed head flexion. Ether anesthesia was used.

A cross-bow incision was made, the bone over both inferior occipital fossæ was removed by means of chisel and rongeur forceps, impinging on the foramen magnum, leaving a strip covering the occipital sinus. The bone of the right side was of the thickness of ordinary parchment paper, while that of the left side was three times as thick. The dura was opened by a crucial incision over both lobes of the cerebellum. Pronounced bulging of the right cerebellar lobe was noticed immediately on exposure, and its color appeared deeper than its fellow; its appearance was suggestive of softening. Palpation of both lobes demonstrated marked softening of the right lobe; and an attempt to introduce a spatula underneath produced a tear of its substance. It was readily seen that a satisfactory exploration was impossible without destroying the right lobe; so the index-finger was introduced and at a point, judged to be at the anterior surface of the right lobe, about its middle, a smooth rounded mass the size of a hickory-nut, of firmer consistency than the surrounding cerebellar tissue, was felt and then enucleated.

The removal of the tumor and softened cerebellar tissue was followed by a free hemorrhage controlled by packing with iodoform gauze. Up to this time the patient's condition was satisfactory; but following the removal of the tumor with its accompanying hemorrhage his condition became grave. The blood pressure fell to 90 mm. of mercury. A rapid closure of the wound was made with catgut for muscle and fascial layers and interrupted silkworm-gut sutures for the scalp. The incision over the right lobe was closed last, after the removal of the gauze tampon; no drainage.

Eight hours following the operation, the patient's condition was unsatisfactory. He lay on his left side, his head supported by one pillow. The dressings were soaked with blood, the skin relaxed and perspiring, pulse 140. He was propped up, supported by a back rest and grain 1/120 atropin sulphate administered, following which the pulse rate became increasingly rapid so that it was impossible to count, although each pulse move was distinct.

I believe this extreme rapidity to have been due to the atropin. The further progress of the patient had been detailed.

14. Ascoli: Policlinico, Rome, 1907, xiv, 141.

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Immediately following the operation there was a very slight rise of temperature. By the 29th the temperature was normal and remained so except that on February 8 there was an elevation to 101.6.

FURTHER NOTE BY DR. DILLER

On the 29th it was noted that the pulse was intermittent and it continued so for several days, being very markedly so at times.

On February 7 the patient's respirations suddenly became rapid, going up to 40 per minute and his temperature to 101.6; and he seemed a little dull. I found a rough murmur over the heart which was apparently mitral-regurgitant. Dr. Emmens informed me that he examined the patient's heart carefully just before he came to the hospital and found no evidence of valvular heart trouble. When the patient left the hospital this murmur was much less marked.

Excepting the above complications the patient's condition following the operation has been extremely satisfactory. He experienced complete relief from headaches and vomiting; the optic neuritis subsided.

One of the most interesting and gratifying features of the case was the rapid subsidence of the optic neuritis, which began the day following the operation and continued for several days; and there was a corresponding improvement in vision, which went hand in hand with it. Optic neuritis had been noted by Dr. Emmens before the patient entered the hospital; and the examination at the hospital on January 5 revealed its presence in a high degree. The week preceding the operation the patient's vision was rapidly failing; so that the

Fig. 1.—Gross specimen. Fig. 2.—Section of gross specimen, from photograph.

day before the operation he could hardly read the largest letters in the advertisements of the newspapers. Dr. Heckel observed the patient at frequent intervals following the operation and has kindly furnished us with the subjoined report, which speaks for itself.

EXAMINATION BY DR. E. B. HECKEL.

"First examination, Jan. 18, 1909: A typical papilledema (choked disc) with an elevation of the optic disc of five diopters, above the fundus, in each eye.

Jan. 26, 1909 (day before operation:)
O. D. about 6 diopters.
O. S. about 5 diopters.
First day after operation:
O. D. about 5 diopters.
O. S. about 4 diopters.
Second day after operation:
O. D. about 3 diopters.
O. S. about 3 diopters.
Fourth day after operation:
O. D. about 3 diopters.
O. S. about 2 diopters.
Fifth day after operation:
O. D. about the same.
Sixth day after operation:
Outline of optic disc just beginning to show in left eye.
Seventh day after operation:
Optic disc level with fundus.
Outline of optic disc in O. S. more pronounced.
Eighth day after operation:
About the same.
Fourteenth day after operation.
Outline of optic disc more distinct.
Sixteenth day:
Optic disc still blurred in O. D.
O. S. quite normal.
March 16, 1909, R. V. = 20/30; L. V. = 20/40.
Error of refraction, O. D. + 0.50 D. S. = + 0.50 D. C. ax. 75°.
O. S. + 0.50 D. S. = + 0.50 D. C. ax. 90°.
p. a. Jaeger N. 1 with O. D.
p. a. Jaeger No. 2 with O. S.

Fig. 3.—Low-power view of section of specimen; ocular 4, objective 1; from microphotograph.

"The optic disc of the O. S. is a trifle paler than the optic disc of the O. D.

"One of the most striking features of Ben's eyes was the greater elevation of the optic disc in the right eye; and the swelling was slower in disappearing than in the left eye. This point of the greater swelling in one nerve may be an aid in locating the tumor, i. e., right or left-sided."

REMARKS BY DR. DILLER

Ben passed an examination for train service on the Baltimore and Ohio Railroad within the last year.

The patient himself noted some improvement in his vision

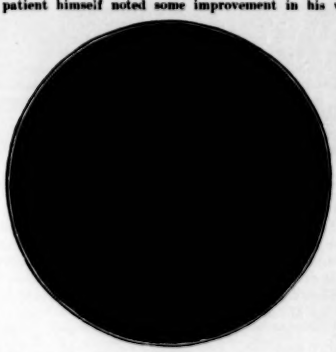

Fig. 4.—View of section of specimen, ocular 4, objective 5; from microphotograph.

the second day after the operation and steady improvement from then afterward during the next three weeks, at the end of which time he could readily read all the ordinary print in the newspapers.

The attitude of the head which had been so striking was no longer noted. The patient complained of no dizziness or nausea, or indeed of any distressing symptoms whatsoever.

It was very cheering to hear the patient's response to inquiries. "How is your headache?" "I have no headache." "How is your sight?" "Why, that's good now." At the time that the patient left the hospital, on March 22, he was comfortable and cheerful, but not yet able to walk more than a short distance; and he was still quite uncertain in his gait. But even his gait was rapidly improving. The heart murmur was still quite audible.

Ben left the hospital, March 22, about eight weeks after the operation. After he had been home six weeks he wrote a very cheerful letter, reporting on his condition, from which we abstract the following: "I got here all right. I have been visiting ever since. I am feeling pretty good at present. I am walking around every day to get exercise."

A more recent report from Dr. Emmens also assures us that the patient continues to do well.[15]

The tumor was given to Dr. F. Proescher, pathologist of the Allegheny General Hospital, for examination, and he reported as follows:

PATHOLOGIC REPORT BY DR. F. PROESCHER

The specimen is a very soft round tumor, 4 cm. in diameter and 2 cm. thick. It was partly surrounded by a red fibrous capsule. When cut in two its periphery was reddish-yellow,

Fig. 5.—Tumor cells infiltrating walls and lumen of vein.

opaque, very soft and rich in blood vessels. The center of the tumor had the consistency of gelatin, was grayish-white and transparent and contained many hemorrhagic areas.

Microscopic sections showed a polymorphous sarcoma with myxomatous areas. It contained many large and small blood vessels, some of which the sarcoma perforated; and there were multiple hemorrhages.

Diagnosis.—Myxosarcoma teleangiectatum.

The features of this case which appeared to us as noteworthy are:

1. The excellent recovery of the patient after the operation and his great improvement.

2. The position of the head, bent forward to the left on the chest and rotated to the right. This is against the common statement that in cerebellar tumors the head is drawn backward.

3. The very rapid subsidence of the optic neuritis following the operation.

4. The fact that the optic neuritis was greater on the right side—the side of the tumor—than the other side.

5. The great practical value of exposing the cerebellum over both sides; this, not only because it is frequently difficult to decide on which side a tumor is located, but because such an opening allows for far better manipulation and exploration of the cerebellum. Without this double opening the tumor in this case could probably not have been enucleated.

6. The fact that considerable manipulation and even destruction of the cerebellar lobe is compatible with life.

7. The position of the patient on the operating table and the surgical technic are of the greatest importance.

8. The cardiac complication—the apparent development of an endocarditis which seems to have disappeared now.

9. Right-sided sweating.

Westinghouse Building.

ABSTRACT OF DISCUSSION

DR. B. SACHS, New York: The matter of greatest importance is to determine the exact location of the cerebellar neoplasm; and a considerable experience has led me to the conclusion that accurate localization can only be made by the observation of a few especial and very delicate symptoms. The attitude of the head is one of the most important of all signs. I have found it of importance in a considerable number of cases; and my impression has been that for the most part the head inclines toward the side on which the tumor is situated, although there may be cases reported in which the opposite has been true. Moreover, the occurrence of vertigo on looking to one side or the other sometimes leads to a differential diagnosis. And in that case, too, so far as my experience goes, the vertigo becomes extreme if the person looks also toward the side on which we believe the tumor to be situated and where it is subsequently found. Another point of importance as an aid to diagnosis in cerebellar cases is the occurrence of intense nystagmus. While nystagmus is an associated symptom in neoplasms in various locations, there is very intense nystagmus associated with this class of neoplasms that I think may be considered as evidence of cerebellar tumors in contradistinction to tumor in other parts of the brain.

Then the minute differences between the reflexes (and all these symptoms are apt to be slight), particularly slight ataxia in one member as compared with the member on the opposite side of the body, are important.

Dr. Diller has been extremely fortunate in his diagnoses; for in a series of twenty cases of cerebellar neoplasm it has been my misfortune not to be able to localize the neoplasm in any spinal part of the cerebellum and yet the cerebellar operations will not be such an infrequent occurrence, because nowadays we are impelled to exploratory operations in order to save vision. For that reason I do not hesitate in any case in which I suspect a cerebellar neoplasm to have the first exploratory operation done for the purpose of saving the vision if possible; and incidentally have that exploratory operation done in such a way that it would be performed on the side to which the symptoms appear to point. In that way we may sometimes have all the good fortune that Dr. Diller has had in this case.

DR. MAX MAILHOUSE, New Haven: A year ago I was fortunate enough to see two cases of cerebellar tumor within three months; and I had two particularly important aids to localization in these two cases: One was ataxia shown by the finger to nose test on the same side as the tumor, which ataxia is now considered to be a homolateral symptom. The other was awkwardness in the pronation and supination of the forearm, present in both cases, that awkwardness being on the same side as the tumor. Those two phenomena aided me in localization, and the tumor was found in each case where these ataxic conditions indicated.

One of the cases unfortunately was very late in coming to hand. It had been diagnosed by the general practitioner as neurasthenia and the patient had been sent into the country and rusticated for three or four months before reaching my

15. The patient was shown at the meeting of the Section on Nervous and Mental Diseases of the American Medical Association at the Atlantic City meeting, June, 1909. At this time he was bright mentally, entirely free from headaches and vomiting, and able to read readily an ordinary newspaper; and he walked with ease an ordinary pace, exhibiting but slight trace of the marked ataxia which he had formerly had. The right knee-jerk was normal; the left, somewhat exaggerated. The pupils reacted to light; the fundus was not examined. The patient's head was held in nearly normal position, although movements were somewhat, not greatly, restricted. In every way he was quite comfortable. The wound had entirely healed.

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hands. In both of these cases the early and marked development of choked disc and the persistent and early development of vomiting helped to point toward the cerebellum as the seat of the lesion.

DR. GEORGE B. MOLEEN, Denver: Nothing has been said with reference to the utilization of the *x*-ray in these cases. I feel somewhat hesitant in bringing that up, although in three cases in Denver prior to doing either an exploratory or ameliorating operation, I had the side in which I suspected the tumor to be present *x*-rayed, keeping that side closest to the plate.

In two instances I obtained very good shadows. Both of the patients were operated on and the diagnosis and location verified. One of these cases, like the one mentioned by the previous speaker, was diagnosed as a case of neurasthenia, but it had all the evidences of a left-sided cerebellar tumor with secondary atrophy incident on the choked disc. In that case the patient was placed on a plate and photographed with the left side down. The skiagram showed a very clear outline.

Those tumors which are, however, more deeply seated should not be expected to give a clear and definite outline, as compared with those which are located near the cortex. Naturally, the line of such tumors will be more or less diffuse. But with those located near the cortex if that side of the head is brought next to the plate, the skiagram will furnish a very important aid in determining the location of the tumor.

DR. B. R. TUCKER, Richmond, Va.: I have a case which I think is undoubtedly one of cerebellar tumor, in which I have advised operation, but I am very uncertain, and in fact, completely in doubt as to which side the tumor is on. The patient is a child about 4 years old who has nystagmus, nausea, vomiting, and optic neuritis which had gone on to atrophy. The position she takes is unique. She has spells of drowsiness, and then she will kneel on the floor, put her head on one side, resting it on the floor, sometimes on the right and sometimes on the left, and drop off to sleep instantaneously. I have not been able to find another instance of a similar position assumed by the head and also by the body.

DR. T. M. T. MCKENNAN, Pittsburg: There are three suggestive points in diagnosis which have not been brought out, but which I noticed in the case which is under discussion. One point is that while the patient had severe general headache, he stated that the most intense pain was on the right side and toward the back part of the head. The second point is that on palpation of the head, there was distinct tenderness on the right side; the third point is that there was unilateral sweating on the right side; all suggesting that the tumor probably was in the right cerebellum.

DR. T. DILLER, Pittsburg: I would be the last to minimize any aids that we would get in the way of localization, both as to whether a tumor is in the cerebrum or cerebellum and, if in either of these, in which portion. But the patient was not examined, I confess, with quite the same precision that he would have been ordinarily; for, as I said, he was so miserable and so very wretched that we could not examine him quite so thoroughly in all respects as would have been desirable. I am glad Dr. McKennan mentioned these two or three points that I had forgotten in my brief summary of the case. A very interesting point was this unilateral sweating.

We should get all the aid we can and locate the tumor as exactly as possible; but after that from a practical point of view I think we ought always in cases of cerebellar tumor to open the skull over both lobes of the cerebellum. This allows for a greater facility for exploration and also for a possible error as to the side the tumor is on; and since this is necessary for surgical purposes, it makes it less necessary to localize a tumor exactly in the cerebellum.

I may say that since this case I have had another that was not so fortunate. The tumor was correctly localized in the cerebellum on the right side, on the basis of the marked masseter involvement, as well as the sensory involvement of the fifth nerve, and although the operation was done with the same care and skill as in the other case, the patient succumbed very shortly.

LICHEN PLANUS SCLEROSUS

WITH REPORT OF A CASE *

JAY FRANK SCHAMBERG, M.D.
AND
ROSE HIRSCHLER, M.D.
PHILADELPHIA

Patient.—Miss L., American birth, aged 19; height about 5 feet; weight about 90 pounds; hair brown; eyes blue; skin fair with slight freckling; intelligent. Parents Irish, living and well. Several brothers and sisters living and well; one brother died in infancy of bowel trouble; no consumption in family; no skin disease; no history of syphilis.

History.—The patient had none of the infectious diseases that she could recall. About a year before examination she had lumbago; since then had had slight attacks of rheumatism. She was not nervous in any way, i. e., her temperament was not neurotic. The patient slept well and ate well; she was actively engaged in work and was inconvenienced in no way by the skin disease present. She had never had any other skin affection. The disease under consideration made its appearance about three years before the first examination. It is possible that it might have begun somewhat earlier, as the lesions when first observed by the patient were already large. The patient insisted that the spots were white from the very beginning and that no reddish coloration was at that time present. The palmar surface of the left wrist was first attacked and later the corresponding area of the right wrist. Scant, scattered lesions had since appeared on the dorsal surfaces of the hands and fingers. A patch was also present on the posterior median aspect of the neck.

Fig. 1.—Lichen sclerosus, showing whitish papules and keratotic plugs.

First General Examination.—The eruptive elements consisted of flat, shining, angular papules of a whitish hue. The discrete lesions were of a brilliant snow-white or bluish-white color; the confluent patches exhibited more of an opaque dead-white tint. The papules varied in size from a pinhead to a millet-seed or larger. The smaller papules had a smooth surface and were but slightly, if at all, elevated above the level of the skin. On palpation, they were not more resistant than the surrounding integument. The larger patches were slightly raised above the skin, and somewhat resistant to the touch. The papules were irregularly facetted, their angularity being produced by the exaggerated furrows which constituted their boundaries.

* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

On examination with a low-power magnifying glass, the patches were seen to be covered with fine adherent scales. One of the most striking features of the disease was the presence of numerous brownish-black keratotic plugs which were studded over the larger patches. On the left wrist about one hundred of these plugs could be counted. They were most numerous in a confluent plaque in the center of the wrist. The plugs varied in size from a pin-point to a pin-head, were firmly imbedded, and scarcely elevated above the surface. They could not be dislodged with a needle, although the patient said that washing with soap and hot water temporarily removed some of the plugs. Here and there were a few small pits or depressions from which the corneous plugs had evidently been lost. On the dorsal surfaces of the hands and fingers, the lesions were few and discrete. On the palmar surface of the wrists, particularly the left, there were numerous closely aggregated papules, some arranged in transverse lines corresponding with the furrows of the wrist; others were merged into smaller or larger confluent, irregular patches. The greater part of the wrist was covered with the disease. On the back of the neck was an irregular, quarter-dollar-sized patch made up of partially merged whitish papules. The most recent papules were, as would be expected, the smallest ones. These were devoid of the

Fig. 2.—Microscopic section of an old papule showing hyperkeratosis, flattening of papillæ, great thickening and condensation of corium and deep cell infiltration.

horny plugs. In one lesion a central, dimple-like, depression was noted. None of the lesions exhibited any depression below the level of the skin, or any change suggestive of atrophy. The skin surrounding the papules and plaques was normal in color; there was neither telangiectasis nor pigmentation. No itching was present nor have there been any subjective disturbances. The disease appeared to be slowly but positively progressive, new lesions developing in the neighborhood of the old patches. The mucous membrane of the mouth was free of eruption.

Second General Examination.—The patient, after a period of absence was again seen in May, 1909, over a year after the time she first came under observation. Nearly all of the lesions had undergone involution. The large patches on the wrists had practically disappeared, leaving a rather thinned atrophic skin. One or two small angular whitish papules were still visible. At the nape of the neck, involution had gone on to the same extent as on the wrists.

Microscopic Examination.—In 1908, a biopsy was made with a skin punch from a confluent plaque on the wrist, and a small papule was excised from the base of the little finger. Each incision is now the seat of a pinkish, slightly keloidal scar. The patient complains that darting pains are occasionally felt at the site of the biopsies. The specimen of skin from the confluent patch on the wrist presented the following histological appearances: Larger and older lesion: The horny layer was enormously hypertrophied, being five to eight times its normal thickness. It exhibited longitudinal cleavage of the various strata. Its thickness varied somewhat, being greatest over the follicular depressions at the mouths of the sweat ducts. In these depressions, the horny layer showed a persistence of nuclei and a somewhat whorl-like and irregular arrangement of the epithelial fibers, with reticular spaces in the whorls. These horny masses which took the hematoxylin stain deeply represented the corneous plugs referred to in the clinical description. The plugs were, therefore, due to a follicular hyperkeratosis and parakeratosis.

The granular layer did not show any marked departure from normal; it was made up of two to four layers of cells containing numerous granules of keratohyalin.

The most profound changes in the epidermis were seen in the rete mucosum. This stratum consisted of but four layers of cells, which were fusiform and closely packed together. No polygonal cells were observed whatsoever. The rete was not only greatly thinned, but pronounced degenerative changes were present. The basal layer was in many places completely disorganized. Instead of a marginated contour separating the rete from the corium, the nether edge of the basal cells was irregular and frayed, with fibrils extending therefrom into subepithelial spaces in the corium. In many places, the nuclei of the lowermost rete cells were crescentically shrunken and occupied but a portion of the normal nuclear area.

The papillæ of the corium were practically effaced, inasmuch as there were no downgrowths of the rete mucosum save at the follicular openings, of which there were but five in the section. Just beneath the rete mucosum, the corium in places appeared to be detached with the formation of clear spaces. In most areas instead of a detachment, the basal rete cells seemed to have become disorganized and to have disappeared, leaving an irregular fibrillary network. Here and there rete cells were seen lying loose in the spaces in the upper corium in a rarified reticular structure. The papillary layer was the seat of a dense, fibrous structure made up of closely packed, wavy, collagenous fibers. The papillary blood vessels were practically absent. One or two capillaries are seen coursing for a short distance, but their lumina appeared to be obstructed by endothelial cells. Connective tissue cells were seen scattered among the collagenous fibers in about normal numbers.

No hair follicles were present in the section, but four or five mouths of sweat ducts were seen.

Inflammatory cell infiltration was absent in the papillary layer but was seen about the middle of the corium. At this level, the cells lay in interspaces between coarse collagenous fibers. A pronounced cell infiltration was seen about a sweat duct; and a little lower in the corium a pronounced infiltration was noted in the immediate neighborhood of some of the coil glands and around the adjacent large blood vessels.

Indeed, most of the cell infiltration seemed to be in anatomic relationship with the sudorific glands and ducts.

Smaller and Younger Lesion: The second specimen was a millet-seed-sized, smooth, glistening, discrete, whitish papule removed from the base of the little finger. It presented the following appearances:

The horny layer was hypertrophic, exhibiting two or three times the normal thickness; over the central portion of the papules, the horny layer was thicker than over the periphery. The granular layer was normal. The rete was of normal thickness: the cells in many areas showed a most pronounced contraction of the nuclei and vacuolation of the cell; in some cells vacuolation with disappearance of the nuclei was observed. Subepithelial spaces, such as were seen in the older lesion, were not present in this one, but there was a degeneration of many of the basal rete cells.

There was a pronounced cell infiltration in the subpapillary region. The blood vessels were markedly dilated. The infiltration was more superficially located than in the first specimen but it did not, as in ordinary lichen planus, involve the most superficial portion of the papillary layer. Nevertheless, it would appear that the cellular infiltrate in young lesions is in the subpapillary region and that this is later replaced by an

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increase and condensation of the collagenous fibers leading to a sclerosis or fibrosis of the corium.

Sections stained with acid orcein disclosed the presence of normal elastic fibers in the sclerosed areas. In the subepithelial spaces and in the subjacent reticulated, and rarified portions of the corium, however, the elastic fibers were absent.

In an inaugural address, in 1887, Hallopeau[1] first directed attention to a variety of lichen planus which he termed "lichen planus atrophicus." The patient was a neurotic woman, 45 years old. The eruption was present on the forearm, back and lumbar regions.

In 1889, Hallopeau[2] described a second case and modified the designation to read "lichen planus sclerosus." The patient was an unmarried woman, aged 58. The eruption was present on the wrists. The onset was sudden with intense itching; later the itching moderated. A progressive spread occurred during four years.

A third case was published by Hallopeau in 1896.[3] The patient, a woman of 55 years of age, had had the affection for eight years. The eruption began on the wrists; later the left forearm and right shoulder-blade region became involved. The buccal mucous membrane presented numerous opaline striæ characteristic of lichen planus.

Hallopeau's fourth case was published in 1898.[4] This patient, a woman of 60, had had the disease for two years. The eruption was located on and between the breasts, lower part of the neck, over the clavicles, and in the lumbar region. There was marked itching in some of the areas.

The essential features of the eruption in these cases and in those subsequently to be referred to are remarkably uniform. The lesions consist of flat angular shining papules, as a rule, neither depressed beneath the surface nor raised perceptibly above it. In the center, particularly of confluent papules, are dark horny or keratotic plugs, which when removed expose pits or depressions with corneous walls. The color is whitish—sometimes a shining nacreous white, at other times ivory-tinted. The papules are prone to coalesce into plaques; their borders are nevertheless distinguishable, the patches exhibiting the papules *en mosaique*, as Fournier aptly expresses it. Surrounding some of the papules or plaques is a reddish areola or in other cases pigmentation. Itching is present in most cases.

One of Hallopeau's patients asserted that the eruption began as blackish, slightly elevated points; there then developed a bright, reddish areola lasting several months; later the lesions became decolorized.

Fig. 3.—Thickening of horny layer, follicular parakeratosis, degeneration of rete cells, rarefaction of subjacent corium, thickening and condensation of deeper layers of the corium and deep cell infiltration.

1. Union méd., 1887.
2. Ann. de dermat et de syph., 1889, p. 447.
3. Ann. de dermat et de syph., 1896, p. 57.
4. Ann. de dermat. et de syph., 1898, p. 358.

Some doubt attaches to the accuracy of this patient's observations, as most of the patients assert that the lesion is white from the beginning. Indeed, Hallopeau himself says the papules are decolorized "d'emblée."

Morrant Baker exhibited a case before the London Dermatological Society in 1892, of which Crocker made the following notes:

A man, age about 40, eruption present about eighteen months. It was composed of white, oval or round, convex solid papules in symmetrical groups or irregular shape on the tips of the elbows and knees, the wrists, backs of the hands, and dorsa of feet, the upper and lower lips, etc. Examination with a lens showed minute vessels between and ramifying on the peripheral part of the papules, very like in this respect what may be frequently seen in lichen planus, to which the disease appeared to have some affinity. Moderate but not excessive itching.

It must be admitted that the above case is not in all respects identical with Hallopeau's cases.

Darier[5] published a typical case in 1892. A woman, aged 54, had the disease for two years. It began with itching in the axillæ. The eruption was limited to the axilla and back of the neck. White spots, brilliant and nacreous, were bordered by a reddish areola. Thirty yellowish and brownish points were present on one patch.

Stowers and Vinrace[6] exhibited a case similar to those of Hallopeau before the London Dermatological Congress in 1896. The disease was limited to the inner side of the right knee and caused intense itching.

Orlack[7] described in 1899 a case of lichen atrophicus associated with vitiligo. A young man, aged 23, had large scar-like plaques in the trochanteric region; duration, ten years. Each spot was surrounded by a sepia-colored zone. There was intense itching and paresthetic symptoms.

Under the title of "Lichen Albus, a Hitherto Undescribed Disease," von Zumbusch,[8] who was apparently unfamiliar with the literature on lichen sclerosus, published in 1906 a typical example of this disease. An unmarried woman, aged 51, began four years previously with an itching dermatosis, which appeared first on the shoulders and upper arms, and later on the forearms, wrists, neck and back. The lesions consisted primarily of vivid red polygonal papules, later acquiring a pale lilac tint. Confluent patches of a porcelain white coloration with a slight rose violet areola were later observed. In the middle of the plaques were seen pit-like depressions, in some of which there were visible grayish-brown horny comedo-like plugs. The histologic changes were characteristic of lichen sclerosus.

Montgomery and Ormsby,[9] after describing cases of morphea guttata, detail the description of a typical case of lichen planus sclerosus et atrophicus. The patient was an extremely nervous woman of 51. The lesions were present on the shoulder blades, on the chest and arms. There were no subjective symptoms.

A number of other cases of atrophic lichen planus have been described, but it is doubtful whether they should be regarded as the same variety as that just considered. Most of these cases assuredly are of a different character.

Kaposi[10] describes a case of a woman, aged 45, who had in the cervico-clavicular region, on the back and on the right thigh extensive flat and slightly depressed reticulated cicatrices, with a whitish luster and a reddish-brown border. Kaposi states that they looked like the cicatrices of lupus erythematosus. Later typical lichen planus lesions appeared.

Pawlow exhibited a case of lichen scleroticus seu atrophicus before the St. Petersburg Dermatological Society. Pawlow[11] regarded the condition as influenced by a general keloidal tendency and employed the term "lichen planus keloidiformis."

Schwimmer,[12] in 1895, demonstrated a case of lichen scleroticus present in groups on the greater part of the body. There was intense itching. In the beginning, the condition was regarded as a universal squamous eczema.

Gaucher, Barbeé and Balli observed in 1895 a patient, 24 years old, with a lichen scleroticus universalis. There were papular plaques with intense pigmentation. The authors called the condition "lichen atrophicus pigmentosus."

Zarubin[13] published a case of a man, 32 years old, with an atrophic lichen planus. On the left thigh in particular, but also elsewhere, were numerous lesions consisting of annular and segmental brownish-red patches with atrophic scar-like centers. He also described a case of "lichen atrophicus annulatus universalis" in a man, 47 years old. This patient had numerous brownish-red annular patches with whitish atrophic or cicatricial centers. An accompanying colored plate of the first case demonstrates conclusively that the affection is not the "lichen planus sclerosus" of Hallopeau.

From a survey of the literature we are led, as others have been, to the conclusion that there are two varieties of atrophic lichen planus. The one represents a terminal degenerative change, while the other would appear to be a primary aberrant variety of lichen planus, or an affection closely allied to it. The term "lichen planus sclerosus" is much to be preferred to "lichen planus atrophicus," as the atrophy of the rete mucosum is probably secondary to the sclerosis of the corium. Furthermore, the term "atrophic lichen planus" should be reserved for the secondary variety. In lichen planus sclerosus, the whitish color of the papules is probably due to the compression and obliteration of the papillary blood vessels by the condensed and hypertrophic collagen. Inasmuch as the whiteness of the papules is a striking feature, the designation "lichen albus sclerosus" would not be inappropriate.

In the 11 undoubted cases that have been reported, 8 patients have been females, 2 males and the sex of one patient we have not been able to ascertain. The preponderance of this variety of lichen planus in women is far greater than that of ordinary lichen planus. Kaposi writes that two-thirds of his lichen ruber cases (doubtless including lichen acuminatus as well as lichen planus) were in men. Crocker states that of 114 hospital cases of lichen planus, there were 7 in women to 4 in men; in 108 private cases, there were 81½ in women to 7 in men.

The histologic changes observed in lichen planus sclerosus by Darier, Montgomery and Ormsby, von Zumbusch, and by ourselves are remarkably constant. There is a cell infiltration in the middle of the lower part of the corium, with later a sclerosis and condensation of the collagen fibers. The papillæ are effaced and the papillary blood vessels obliterated. The rete muco-

5. Darier: Ann. de dermat. et de syph., 1892, p. 833.
6. Stowers and Vinrace: Tr. Third Internat. Dermat. Cong., London, 1896, p. 906.
7. Orlack: Arch. f. Dermat., 1899, p. 393.
8. Von Zumbusch: Arch. f. Dermat. u. Syph., 1906, lxxxii, 339.
9. Montgomery and Ormsby: Jour. Cutan. Dis., 1907, p. 1.
10. Kaposi: Diseases of the Skin, Am. Ed., 1895, p. 332.
11. Med. Obozr., 1894, No. 8.
12. Schwimmer: Lichen ruber planus atrophicus, Arch. f. Dermat. u. Syph., 1895, p. 451.
13. Zarubin: Arch. f. Dermat. u. Syph., 1901, p. 323.

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sum exhibits marked atrophic and degenerative changes, while the horny layer is hypertrophied.

The constancy in the clinical and histologic features of lichen planus sclerosus serves to distinguish it trenchantly from other varieties of lichen planus. There are some cases of morphea with keratotic plugs imbedded in the patches, which may closely resemble lichen sclerosus, but a careful study of the gross and microscopic appearances will usually enable one to differentiate the two affections.

1922 Spruce Street.—1911 Diamond Street.

ABSTRACT OF DISCUSSION

DR. M. B. HARTZELL, Philadelphia: I had the opportunity of seeing the case which Dr. Schamberg has reported here, and of which he has shown drawings. I am not quite convinced, and I think the reader of the paper is not, that these cases properly belong to the lichen group. If I recall the case aright, there were small whitish areas, some of them containing minute keratotic plugs. Some of the older patches had a peculiar ivory-white appearance, such as we see in old patches of morphea, and I can not help but think that these cases properly belong to morphea rather than to the lichen group.

DR. J. F. SCHAMBERG, Philadelphia: Some cases of morphea certainly bear a distinct resemblance to lichen planus sclerosus; only recently I made a histologic study of a case of morphea in which keratotic plugs similar to those in lichen sclerosus were present. In its clinical features, however, this disease does not run the same course as morphea. Discrete patches have appeared and disappeared in the course of a year. Histologically, in the case, the elastic fibers were destroyed in the superficial papillary layer, but were preserved in the mid-corium.

VINCENT'S SPIRILLUM AND BACILLUS FUSIFORMIS IN PSEUDOMEMBRANOUS ANGINAS*

WILLIAM R. MURRAY, M.D.
Professor of Rhinology and Laryngology, University of Minnesota
MINNEAPOLIS

Since Plaut, in 1894, described a spirillum and an associated spindle-shaped bacillus in cases of membranous tonsillitis, and Vincent, in 1896, described similar organisms in cases of hospital gangrene, a large number of observers have reported similar lesions in which the spirillum and the *Bacillus fusiformis* have been constantly associated.

These lesions have been described as acute, or subacute, ulcerative or membranous inflammations in which were found the characteristic spirilla and bacilli. Morphologically, the fusiform bacilli have been described as spindle-shaped rods with tapering ends, slightly bulging in the center, usually straight, and from 6 to 12 microns in length. The spirilla, usually associated with the bacilli, are delicate spiral-shaped organisms, staining somewhat faintly, and varying considerably in length and in the number of twists or curves. Both organisms take the ordinary stains but are Gram-negative. They are always found associated with other micro-organisms.

Clinically, these acute lesions appear as a grayish pseudomembranous inflammation attended by necrosis; the necrotic area usually sloughs leaving a penetrating ulcer, the floor of which is covered with pus and which easily bleeds. The duration is from one to three weeks.

In the following cases, the lesion was a chronic pseudomembranous inflammation of the fauces, in which repeated microscopic examinations showed the presence of the characteristic bacilli and spirilla.

CASE 1.—Miss S., aged 24. Family and personal history negative. The patient was referred to me by Dr. C. G. Weston for the removal of chronically hypertrophied faucial tonsils.

Examination.—This showed small deeply embedded chronically diseased faucial tonsils. She had been subject to former attacks of acute tonsillitis. The general health at time of examination was good. A short time previously the cervical lymphatic glands on the left side had been enlarged, but were not so at time of examination. On the surface of both faucial tonsils were small membranous patches, not confined to the crypts. These patches were grayish-white in color, somewhat adherent to the tonsil, and when removed, by brushing, left an underlying reddened surface which did not bleed. The patient stated that she had noticed these patches for the last two months. Temperature was normal and no constitutional symptoms were present.

Operation.—Under cocain anesthesia both tonsils were enucleated and the operative wounds healed quickly.

Subsequent History.—One week after operation patient complained of an annoying cough, accompanied by considerable irritation in the throat. Examination showed a number of gray white patches on the lingual tonsil, and extending into the upper portion of the pyriform sinuses. The tonsillectomy wound showed patches of white membrane. Examination of thorax was negative; temperature was normal. Microscopic examination, by Dr. H. L. Ulrich, of deeper portions of the membrane showed Vincent's spirilla and fusiform bacilli.

Further Treatment.—Application of a 10 per cent. solution of silver nitrate relieved the cough for twenty-four hours. Three days later the patches of membrane still persisting, the galvanocautery was applied superficially and a small area was cauterized. This was followed by a violent reaction lasting for ten days, and was not repeated. Following the use of the cautery, a membranous deposit appeared on the cauterized area. Subsequent treatment consisted of applications of peroxid of hydrogen followed by silver nitrate, 2 to 10 per cent. solution and 5 per cent. solution of zinc sulphocarbolate. Three weeks later the pseudomembrane had disappeared and the throat presented a normal appearance.

CASE 2.—Male, aged 45, was in city for a few days only and was referred to me by Dr. J. H. Stewart for examination of throat. The man's general health was good and his history was negative. Patient complained of some irritation of the throat, but had no pain.

Examination.—This showed small submerged faucial tonsils and membranous patches in the orifices of the faucial tonsillar crypts, on the lingual tonsil and a small isolated patch on the outer side of the epiglottis. Temperature was normal and there were no constitutional symptoms. Microscopic examination of the deposits from both the faucial and lingual tonsils showed the spirilla and fusiform bacilli, numerous cocci and some leptothrix.

Remarks.—This patient was seen only at time of examination, hence subsequent condition was not noted personally, though a letter received some time later stated that the deposits on the tonsils had disappeared a few weeks after I examined him, and that there had been no recurrence. Treatment had consisted of sprays of mild antiseptic solutions.

CASE 3.—Mrs. J. W., aged 44, was referred to me by Dr. J. P. Schneider, on account of a chronic involvement of the throat. Family history and previous personal history was negative.

History of Illness.—The patient took care of a relative, ill with typhoid, four months before date of examination, and her throat became acutely sore at that time, numerous membranous patches appearing on the faucial tonsils. During the past four months there has been a feeling of irritation and discomfort in the throat, but no pain. At times she has been

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

subject to slight hoarseness, though her voice has not been markedly affected. She states that about one month after her throat became affected she felt some irritation further down in the throat and thought the larynx was becoming involved. At that time she had fever, with pain in the muscles of neck, and also some pain in the muscles of chest and back which she described as "shifting pains." She is extremely nervous, does not sleep well, wakes suddenly and has a feeling of impending danger. When nervous and restless at night she perspires freely.

Examination.—Faucial tonsils were moderately hypertrophied; the surface of the tonsils showed numerous patches of grayish deposits, some located in the crypts of the glands, but not confined to them, which were adherent to underlying membrane, but could be removed by brushing with a cotton-wound applicator without leaving a bleeding surface. The deposits were abundant between the anterior pillars and the base of the tongue and a number of membranous patches were present on the lingual tonsil and in the lingual sinus. There were several isolated patches in the pyriform sinuses and involving the upper lateral edge of the epiglottis. Temperature at time of examination was 99.5 F., and during subsequent

Drawing from smear in Case 3, × 500; 3 mm. immersion objective and No. 6 ocular used. Drawing made with camera lucida.

days it varied from 98 to 99.5 F. The patient was also examined by Dr. J. W. Bell, who reported a nervous dyspepsia and neuralgia of the muscles of the chest and back. The patient was neurotic and her general condition was considerably below par; physical examination otherwise was negative.

Examination of smears: Several days later smears were taken from the affected areas and submitted to Dr. S. Marx White for microscopic examination. Dr. White reported Vincent's spirilla and fusiform bacilli, and a few days later he personally removed some of the pseudomembranous deposits for examination and reported as follows:

1. Considerable numbers of squamous epithelial cells with occasional smaller round cells. No polymorphonuclear leucocytes were seen.

2. A moderate amount of granular detritus without any special structure and small amounts of substance staining like mucus.

3. Bacteria in large numbers. Among these we find most prominent a slender spirillum 8 to 12 and sometimes 14 micra in length, with pointed ends. Each spirillum shows from 3 to 5 and sometimes 6 turns and many of them are twisted in such a manner as to form a loose loop. Beside these are found a number of fusiform bacilli 8 to 12 micra in length. These are pointed at both ends and stain somewhat irregularly, appearing at times to be divided near the center so as to form two bacilli with their blunt ends together. The special staining properties of these organisms will be described in a later paragraph.

Aside from these are a few short bacilli, many cocci, occasionally in pairs and tetrads, and larger deep-staining organisms of the leptothrix type. The fusiform bacilli and spirilla above described resemble those seen in a number of cases of the so-called angina and stomatitis of Vincent. The staining properties of these organisms are as follows:

(a) Gram's stain: The fusiform bacilli when decolorized with alcohol rapidly, retain here and there, a little of the gentian violet, but under ordinary decolorization lose almost completely this stain. The spirilla are completely decolorized.

(b) Gentian violet and aqueous fuchsin stains color the bacilli deeply and give an appearance of vacuoles or fainter staining areas in the protoplasm. The spirilla are brought out more prominently by these than by any other stains.

(c) Methylene blue: The bacilli are faintly colored, but show some irregularity. It is difficult to see the spirilla with this stain, as they are very faintly colored.

The predominating organism in these smears made from the whitish patches on the lingual tonsil are the fusiform bacillus and the spirillum corresponding in all particulars with that of Vincent. Cultivations were impossible because of the larger numbers of other organisms. These organisms may bear an etiologic relation to the condition, but it is impossible to make a dogmatic statement to that effect, since similar organisms are occasionally found in the normal buccal secretions and since also many other organisms, such as the leptothrix, are found. Repeated observations, finding the same organisms in a number of similar cases, would be necessary.

The sections of the tonsil and a small mass of material from the lingual tonsil fail to show anything aside from partially filled crypts in which these organisms can not be distinguished.

In Case 1, the general health of the patient was good and she responded readily to treatment. In Case 3, at the onset of the throat involvement the patient had been subjected to considerable physical and mental strain; she was extremely nervous and apprehensive in regard to what she considered a serious throat affection; she was of a neurotic temperament and subject to gastric disorders, and for these reasons I did not attach much importance to her systemic condition as being a direct result of the throat lesions. This patient responded less readily to treatment than the patient in Case 1. Tonics were prescribed and, while there was no history or other evidence of specific disease, potassium iodid, in increasing doses, was administered for four weeks without result. During the first four weeks, local applications were made of peroxid of hydrogen, silver nitrate, 2 to 10 per cent., and zinc sulphocarbolate. This treatment was followed by but slight improvement; the silver nitrate solution was then increased to 30 per cent. and improvement followed resulting in the disappearance of the membranous deposits.

Clinically, these cases resembled in some respects a mycosis and some leptothrix were found in the microscopic examinations of the smears. The pseudomembrane, as described above, could be removed by brushing with an applicator and left a reddened but not a bleeding surface. This membrane showed a marked tendency to recur after removal and appeared on the cauterized area in the tonsillar fossa after tonsillectomy.

Whether the organisms, as described by Vincent, and which were found in all the miscroscopic examinations made in these cases, were the causative factor I am unable to say. Unsuccessful attempts were made to grow the organisms, aërobically, on culture media and no inoculations were made. The growth of Vincent's

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spirilla and the fusiform bacilli on culture media has demonstrated the great difference in vitality that these organisms possess.

As previously stated, I am not able to say that the Vincent's organisms were the causative factor; their continued presence, however, would seem to justify the assumption that they may have been a factor in the production of the pseudomembranous angina as occurring in these cases, and I have considered the subject of enough interest to warrant my presenting to the section the clinical histories and findings.

602 Nicollet Avenue.

ABSTRACT OF DISCUSSION

DR. F. C. TODD, Minneapolis: The literature on the subject of Vincent's angina is large, many cases having been reported despite the relative rarity of the disease. Clinically, two types are generally recognized (according to Bruce), first, the mild diphtheritic type which is unilateral, superficial, limited in extent with no swelling or injection of the fauces, and very slight glandular enlargement on the affected side with slight elevation of temperature, lasting from one to two days, following which there is no immediate change in the throat condition, the slough finally dropping off, revealing an ulcer which quickly heals. Second, the ulcero-membranous type. In this condition the disease spreads rapidly over a greater and deeper area. There is a slow suppuration of the slough in from ten to fourteen days; one-half of the tonsil or uvula may be destroyed, followed by granulations which bleed readily and heal rapidly. Glandular involvement occurs but not suppuration.

The cases reported by Dr. Murray, it would seem to me, sufficiently correspond to those reported by other observers, to be considered as true cases of Vincent's angina, though very likely the mixed infection alters the disease.

I have had one case which I diagnosed as mycosis (mycelium being present) because there were present not alone the microorganism producing this disease, but because it was typical, clinically, and there were present horny, hard elevations extending from the crypts, indeed a keratosis; Vincent's spirillum and Vincent's fusiform bacillus were present. There was at no time a membrane present and the disease was only cured by complete removal of the tonsil and repeated surgical removal of the areas in which recurrence too place, some months being required to eradicate the infection.

Another case I have seen is that of a physician, a pathologist, who is examining the throats of patients in an insane asylum where an epidemic of Vincent's angina was present, contracted the infection himself and although this occurred several years ago he can at all times find the infection present in his tonsils even when no abnormal manifestations are present. At times he suffers severe acute exacerbations. It may be a chronic infection similar to Dr. Murray's cases.

DR. SAMUEL IGLAUER, Cincinnati: I have seen at least six or seven cases of Vincent's angina. Whenever I had occasion to suspect this disease I found the smears about the same as here given. In giving the characteristics Dr. Murray did not state that the bacillus as well as the spirillum is motile, and that a very good way to study it is in the hanging drop. They both stain with Loeffler's methylene blue, or with carbolfuchsin. We may safely state that these organisms are always present in these ulcers, and it would seem that they are the cause of the disease. The bacillus has always had a characteristic canoe shape and the transverse markings represent, if you will, the seats in the canoe. Another point of importance is the absence of constitutional symptoms. The patient has little or no pain and is usually surprised when told that he has an ulcerative process in the throat.

DR. E. H. PORTER, Tiffin, Ohio: Dr. Iglauer has said the patients have little pain or discomfort. I would like to report a case. A butcher came under my care with a diseased condition of the mucous surface of the mouth which had existed for nine months and suffering excrutiating pain. I took him to St. Vincent's Hospital in Toledo and we went carefully over the case. We found the typical bacilli and enormous numbers of the tetrads. He was taken care of at home for about a week and did not progress favorably and I took him back to the hospital and the whole inner surface of the cheek was removed surgically. He was in the hospital about six days and was sent home by the operating surgeon. Since that time I have been trying everything the various text-books have given for the treatment of the disease, but just before coming to this meeting I found the ulcerative process still going back into the tissues. Dr. Mayer in a letter suggested the use of iodin solution but it has not stopped the process.

DR. J. A. STUCKY, Lexington, Ky.: I have had seven cases, five of which have already been reported. The treatment in the first two was most unsatisfactory, but in the last five I have had gratifying results from the application of Loeffler's solution. In three of the five only two applications were necessary; in the others four or five applications were made.

DR. W. R. MURRAY, Minneapolis: I have not reported these cases as typical cases of Vincent's infection. Moreover, I am not prepared to state that they are cases of Vincent's angina. They are not acute cases and are very different from the cases formerly described as Vincent's angina, a great many cases of which have been described in the literature. These cases were chronic, with no constitutional symptoms and no local symptoms except irritation in the throat. I have seen a number of cases of typical acute involvement of the fauces and in the treatment I have found that application of the tincture of iodin usually gives very good results, although I am aware that some men have claimed that it is a disease which is very little influenced by any treatment whatever.

Clinical Notes

A NEW APPARATUS FOR THE TREATMENT OF FRACTURES OF THE HUMERUS

GEORGE OSGOOD, M.D.
COHASSET, MASS.
AND
DUNLAP P. PENHALLOW, M.D.
House Surgeon Boston City Hospital
BOSTON

In the treatment of fractures of the shaft of the humerus, much difficulty is often encountered in getting apposition of the fragments and then holding them in place by the methods commonly in use.

The forms of apparatus most commonly used consist essentially of an axillary pad, coaptation splints, an internal angular splint, a shoulder cap, either of felt or of plaster of Paris, and a cravat sling to support the forearm at the wrist. It may easily be seen that the amount of traction obtained with such an apparatus depends directly on the downward pull which the weight of the forearm exerts on the lower fragment.

In certain cases in which reduction is difficult, an internal angular splint is applied and active traction is obtained by means either of a weight which is hung on the internal angular splint close to the elbow, or by means of a piece of rubber tubing which is fastened to the angle of the splint and then passed downward to the groin, and around the thigh. Such an apparatus as the latter is uncomfortable and necessitates constant watching to see that no pressure sores result from insufficient padding under the tube.

It may readily be seen that such a humerus apparatus is complicated and difficult to adjust properly, and that it requires constant readjustment in order to hold the fragments of bone in apposition. It also does not allow of muscular relaxation, but simply tires the muscles by constant and direct pull, and by pressure of the coaptation splints.

It would seem, then, that a simpler apparatus which would allow of muscular relaxation and which also could be applied so as to cause traction without weights, and thus bring the ends of the fragments into apposition, would be much more advantageous than the complicated contrivances commonly used. Such an apparatus would have all the advantages of the usual combination without the disadvantages attendant on frequent removal for readjustment.

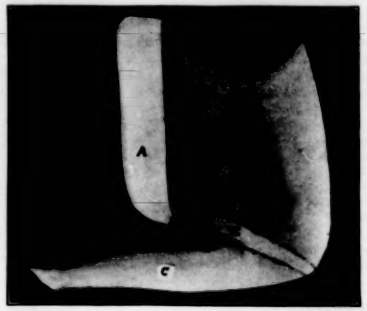

Fig. 1.—Side view of left arm splint; foreshortening due to position of splint; A, chest piece; B, upper arm support; C, forearm splint; E, reinforced angle.

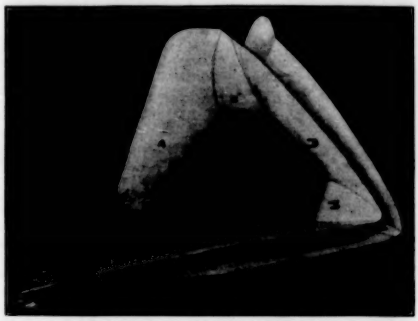

Fig. 2.—Front view of left splint; Various parts designated as in Figure 1.

Taking all these factors into consideration, the following apparatus was devised for the treatment of fractures of the shaft of the humerus. It may be used for fractures elsewhere, such as those of the surgical neck, and for supracondylar fractures, provided that care is used in adjusting the splint and the pads. The splint consists of a chest piece (Figs 1 and 2, A), to which is

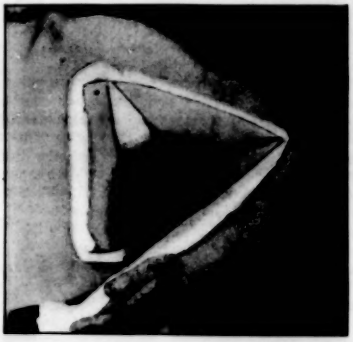

Fig. 3.—Splint padded and applied before the adhesive swathe has been put on.

Fig. 4.—Same as Figure 2; rear view.

attached a gutter (B) at an angle of about 45 degrees and large enough to accommodate the upper arm and of a length approximately that of the humerus measured from the axilla to the flexure of the elbow. From the lower end of this gutter is what is practically the forearm part of an internal angular splint (C) set at such an angle that the forearm will be carried slightly in front of the body, while the hand will be held in a position of semipronation and somewhat lower than the elbow. This position of the hand and arm is very comfortable and exerts little or no pressure on the large vessels in the arm and at the elbow, so that the circulation is not retarded, and there is very little chance of edema of the hand in spite of its relatively dependent position. In order to gain extra strength, the splint is strongly reinforced in the angles (E, E).

This apparatus, when applied, combines in itself an axillary pad, internal angular splint, sling and internal coaptations. The adhesive plaster straps which cross over the deltoids take the place of the shoulder cap. External coaptation splints may be used to advantage in certain cases, simply to aid in the prevention of outward bowing, and also to prevent "gunstock deformity."

The greatest advantage of this apparatus, however, is the fact that it permits of practically any degree of

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traction required for the apposition of the fragments. During the application of the splint, the traction is active; but after the apparatus is applied the traction becomes virtually passive by reason of the downward pull of the arm along the upper gutter, by gravity pulling the upper arm forward and downward, thereby counteracting the usual displacement forward of the lower fragment.

Another advantage derived from this apparatus is to be found in the treatment of compound fractures of the humerus, which are nearly always compound on the outer side, since the dressing may be changed without disturbing the position of the fragments. Another desirable feature is the fact that patients are able to put their clothes on over the splint. Furthermore, it is much more comfortable to wear than any other form of apparatus known to us. Patients who have been in the usual apparatus have commented on the comfort and relief afforded by this splint.

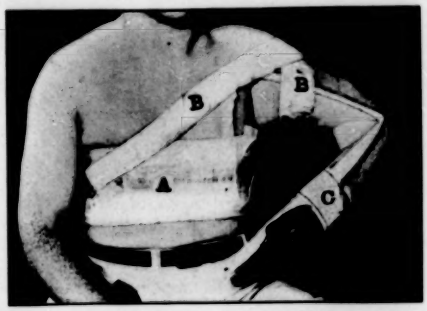

Fig. 5.—Rear view of same subject shown in Figure 3; shows relative position of splint to chest wall and arm; A, adhesive swathe to hold splint in position against chest wall; B, B, straps of adhesive plaster crossing over deltoid muscle to hold splint well up into axilla and also to immobilise the deltoid; C, adhesive plaster strap applied over sheet wadding to hold forearm to splint. Note the unobstructed view which may be had of the whole of the upper arm.

Fig. 6.—Rear view of the same subject shown in Figure 5. Designation by letters same as in preceding figure.

Fig. 7.—Case 1; compound fracture of the humerus. An operation was performed and an attempt made to hold the fragments in position by means of kangaroo tendon. The arm was then put in acute flexion, but considerable displacement resulted, as shown in the diagram, and the arm could not be fixed so as to hold the fragments in position. It was therefore decided to try the splint.

Fig. 8.—Case 1; arm on splint showing still some displacement of fragments; upper fragment displaced slightly outward and lower fragment displaced inward.

The desired traction is obtained by first extending the forearm and carefully placing the proper amount of padding over the lower angle of the splint. The forearm is then flexed, and if the padding has been properly adjusted such flexion will cause the lower fragment of the humerus to be drawn downward, while the upper fragment remains fixed. The degree of traction obtained can easily be varied by the amount of padding placed over the lower angle of the splint, and, as this is rounded off, a great amount of traction may be obtained without fear of injuring the nerves and blood vessels lying in the flexure of the elbow. Practically any amount of overriding may be corrected, as the position of the upper arm is such that the greatest amount of muscular relaxation is obtained, and the traction from the weight of the arm is continuous, though moderate in degree.

Fig. 9.—Case 1; marked improvement in position due to adjustment of padding; very slight displacement outward of the lower fragment.

The forearm splint acts as a sling, holds the forearm in a semipronated position and carries part of the padding by means of which the traction is obtained.

The splints are made in various sizes for both right and left arms. An adjustable splint may also be made by constructing the upper gutter in two parts, one of which rests in the other. The chest piece and one part of the gutter are attached, while the other gutter is attached to the forearm splint. A series of holes is made in both gutters in such manner that they correspond, and the splint is completed by adjusting the upper gutter to the length of the humerus and then rivetting the two parts together.

The method of applying the splints is very simple and is as follows:

After the proper amount of padding has been placed over the chest piece and upper gutter, the splint is pressed well up into the axilla (Figs. 3 and 4) and an adhesive swathe (A) is passed over the chest piece and around the body (Figs. 5 and 6). The padding is then adjusted over the upper gutter, and the strap (B) is placed in such a manner as to hold the splint well up in the axilla and also crosses over the deltoid so as to hold it fixed, while it also serves to sustain the upper fragment in position. The forearm is then flexed and the strap (C) is applied. A bandage may now be applied if desired and the apparatus is completed.

Fig. 10.—Case 2; *x*-ray showing well the application of the splint and its relation to the chest and upper arm; fracture seen at middle of shaft of humerus in good apposition and excellent alignment.

CONCLUSION

We wish to express our thanks to Dr. F. J. Cotton for many timely suggestions. His opinion of the splint is as follows:

I had nothing to do with the original planning or designing of this splint, but have had an ample opportunity to test it clinically. The case here noted as Case 1 (Figs. 7-9), a peculiarly difficult case in which to get and maintain position, was in my charge, and there have been several others at various times since then. The splint has, in short, been thoroughly tested on suitable clinical material on our service and has proved eminently satisfactory.

Obviously, its proper application calls for some skill, and it must be watched as must all splints; but in reasonably skilled hands remarkably satisfactory results are possible, even in most difficult cases. I regard it as a very definite step in advance of our previous apparatus for most fractures of the humerus in adults.

"I Read It Through Carefully."—I did not know what it meant, or even what it was trying to prove. This worried me a good deal until I showed it to two men more than usually acute intellectually, and they confessed that it was beyond them. What excuse is there for writing . . . [what] is not perfectly clear and plain to everybody who can read? . . . Obscurity is a common fault." This by a writer in *Printer's Ink*, is worth attention by medical men, who so often write so hastily as to leave clearness out of account.

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GIANT-CELL EPULIS OF LOWER JAW

REPORT OF A CASE

ALEXIUS McGLANNAN, M.D.
BALTIMORE

GENERAL DESCRIPTION

Epulis is a slightly malignant tumor of the jaw, growing from the connective-tissue cells between the mucous membrane and the periosteum of the alveolar border.

The tumors grow slowly, seldom reach a large size, or cause destruction of the bone. The teeth are often loosened by the growth of the tumor into the root sockets. As far as is known, these tumors never give metastases, but will recur locally if their removal is not complete. Histologically they are sarcomata of low malignancy,

Fig. 1.—Appearance of the tumor in the mouth. The clamps are on the divided cheek. Note the good exposure obtained by this incision. (From a painting made at the operation by Miss Hayes.)

giant-celled and fibro-spindle-celled, or vascular fibromata (angiofibroma). An epulis always may be cured by complete excision.

These tumors seem closely related to inflammatory reaction. About 25 per cent. of cases give a distinct history of traumatism as an etiologic factor. A certain number of patients date the growth of the tumor from the extraction of a tooth; but here it is more than likely that the tumor led to the removal of the tooth. In many cases the tumor occurs around normal, firm and evenly placed teeth.

In the clinical history the symptom of onset most frequently is at the tumor itself. The tongue feels the small swelling on the side of the alveolar border of the jaw. Occasionally pain may be the first symptom—toothache or pain in the jaw itself.

The small tumor looks like a gum-boil, but is not so painful or tender; often, indeed, it is not at all sensitive. The swelling begins on the inside of the jaw at the border of the teeth and extends down on the alveolar process. As it grows it surrounds the tooth or teeth and extends on the outer border. The growth is always greatest on the inner side of the teeth, and is never confined to the outer side alone.

The tumor is always firmly attached to the teeth, or to the alveolar border. It shows little tendency to infiltration beyond the alveolar process. On the lower jaw it is distinctly limited by the alveolar border, while on the upper jaw it may infiltrate below the mucous membrane over the hard palate. A vascular epulis may pulsate.

The mucous membrane over the tumor remains intact for a long time. When it ulcerates the surface of the tumor appears red, finely lobulated, and vascular. From such ulcers there are frequent slight hemorrhages.

These epulides occur at all ages, being most common in the third decade of life. They usually have a history of long duration, and are more common in women than in men. The position of the growth is most often about the bicuspids and first molars; it is less frequently found around the incisors, and is extremely rare posterior to the last molar teeth.

Differential diagnosis must be made between epulis and (1) sarcoma of the bones of the jaw, (2) the dentigerous cysts, and (3) adamantine epithelioma.

The alveolar limit of the epulis distinguishes it from the periosteal sarcoma. While these tumors may appear at the alveolar border, the swelling spreads rapidly over the body of the bone. More often the periosteal tumor begins on the body and extends to the border.

Fig. 2.—The tumor after removal, and on section.

The dentigerous cyst is formed by the distention of the connective-tissue sac about an undeveloped tooth. The distending cyst thins the overlying bone by pressure. The growth shows itself as an asymmetrical swelling of either jaw, situated beyond the alveolar process, covered by intact mucous membrane and a thin shell of bone.

The adamantine epithelioma may be considered a dentigerous cyst whose cavity is filled with proliferated enamel epithelium. It has the same clinical symptoms as the cyst. Both tumors are shown in *x*-ray pictures as areas of bone absorption, and at exploratory incision are easily recognized by the character of their contents.

Treatment of epulis is by conservative operation. When the tumor is large and spreads over the area of several teeth, an incision is made through healthy mucous membrane, the teeth are extracted, and the tumor with a portion of the alveolar border is removed. An operation of this extent will always cure the disease.

In early cases, and when the tumor takes in only one tooth root, it is sufficient to take the tooth and tumor, dividing the mucous membrane and burning the tooth socket with the Paquelin cautery. Still earlier tumors

may be removed by the cautery alone without extracting the tooth. This very conservative treatment of the small tumors is justified, because by this means we are able to avoid deformity and run no risk beyond that of local recurrence, in that these tumors do not form metastases, even after repeated recurrences. When the tumor is a recurrent one, however, it is better to do the radical operation outlined above.

The following case is of interest because of the rare position of the tumor, posterior to all the teeth, in consequence of which a rather extensive operation was required for its exposure and removal.

REPORT OF CASE

Patient (Surg. No. 555).—A white man, aged 50, was admitted to Dr. Bloodgood's wards at St. Agnes Hospital, July 22, 1908, for the cure of a tumor (epulis or giant-cell sarcoma) of the lower jaw. His previous history was unimportant, except for the repeated attacks of quinsy. There was nothing in the history or physical examination to suggest lues. The swelling of the jaw had been present three years, beginning as a small lump on the inside of the angle of the jaw, on the right side. This gave him no pain, and the growth had extended slowly without tenderness or pain. For about a year the last molar tooth on this side had been loose, and during this time the patient had toothache, which he relieved by picking the tumor so that it bled. The growth would bleed occasionally, especially after anything hard was masticated. The patient felt that the original lump began as a result from a carious wisdom tooth whose roots had never been extracted.

Examination.—The fungous swelling extended from the angle of the jaw to the anterior pillar of the fauces, and forward to the second molar tooth. This tooth was loose and tilted inward. The surface of the growth had the appearance of fibrous granulation tissue. It felt soft, but was not friable and did not bleed when handled. The tumor was distinctly limited to the alveolar process, and did not extend on the cheek or tongue. The submaxillary lymphatic glands were palpable.

The patient was given an antiseptic mouth-wash and a chlorate of potash tooth-paste, and put on sterile food for six days preparatory to operation.

Operation, July 28, 1908 (McGlannan).—The ether was administered by Dr. S. G. Davis, by means of his spray and tube. The cheek was split from the angle of the lips to the ramus of the jaw, below the line of the parotid duct. (Fig. 1.) This gave excellent exposure and no trouble was experienced in dividing the healthy mucous membrane and periosteum beyond the tumor. By blunt dissection the periosteum was lifted and a thin shell of bone taken with the tumor. In order to do this the first molar was extracted and a hole drilled just under it. The Gigli saw was passed through this hole and the bone cut through by means of it. The removal of bone was completed with bone forceps and the raw surface burned with the Paquelin cautery. Closing the wound, the mucous membrane of the floor of the mouth and of the outside of the jaw were drawn toward one another with fine silk. The cheek was sutured with fine silk inside for the mucous membrane, and alternate fine and coarse silk on the outside for the skin and muscles. The lip was carefully restored with fine silk sutures. A protective drain was put in the posterior angle of the cheek wound and the anterior portion sealed with foil, cotton and collodion. The face was then put up in a voluminous gauze dressing with a crinoline helmet.

Postoperative History.—The patient made a good recovery. There was a little discharge of pus from the posterior portion

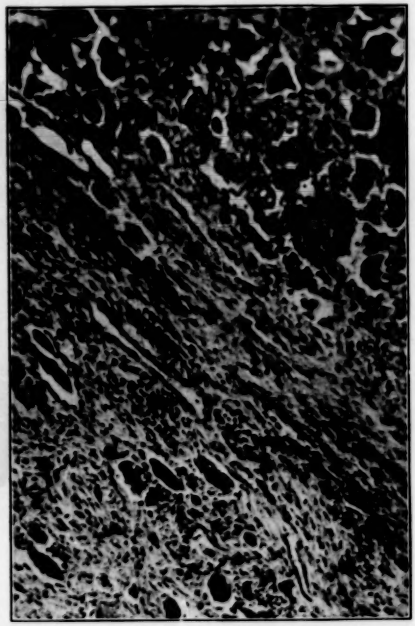

Fig. 3.—Histologic appearance of the tumor; low-power magnification. Photomicrograph by H. Schapiro.

Fig. 4.—Histologic appearance of tumor, high-power magnification. Photomicrograph by H. Schapiro.

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of the wound for some days, and a salivary fistula remained for about two weeks. The lip end of the wound healed firmly by first intention. There was no deformity of the mouth, and the scar was entirely concealed by the patient's beard. There has been no sign of recurrence of the tumor.

Pathologic Report (Path. No. 9124).—Gross Description: The fungous tumor is elliptical, 2.5 cm. and 2 cm. in diameter, and elevated about 1.5 cm. It was removed with mucous membrane, periosteum and bone. The tissue was firm and almost entirely covered by mucous membrane. On section the surface was dark red, lighter at the base with perpendicular striations. Nothing was expressed on pressure. The tumor was distinctly circumscribed and did not infiltrate the normal tissues. No tooth roots or cavities were present.

Microscopic Examination: The section showed giant cells in an extremely vascular stroma with marked tendency to fibrosis and distinct lobulation. There was some blood pigment present. The mucous membrane shown is normal.

114 West Franklin Street.

POPLITEAL ANEURISMS

GASTON TORRANCE, M.D.
Surgeon to the Hillman and St. Vincent's Hospitals
BIRMINGHAM, ALA.

I. A POPLITEAL ANEURISM, IN A PATIENT WITH ONE LEG, SUCCESSFULLY TREATED BY THE MATAS METHOD

C. F., a colored miner, aged 41, was admitted to my service at the Hillman Hospital on July 8, 1908, with a pulsating tumor of the left popliteal space. His right leg had been amputated just below the knee, twenty-two years previously, as a result of severe burns. He denied any specific history or injury of this leg. He first noticed a lump, about the size of a lemon, in this region two years before, and said that it always grew larger when he was at work and decreased in size when he kept quiet. He had not had much pain, but the foot had been cold and stiff for the past year. The mass had not increased in size, and pulsated slightly; a bruit could be heard; it was firm and there was some question as to its being an aneurism.

Under ether, with a tourniquet on above the knee, an incision was made down to the vessel, the sac opened and several large clots, which were well organized, were turned out. No blood was encountered until the last clot was removed. This clot showed a groove on its under surface which formed the upper boundary of the blood channel; the openings of the vessel were about 2 cm. apart and were connected by a groove of about the same depth as the one in the blood clot which had been removed. Nature was making an attempt to cure the aneurism and the channel thus formed carried almost the normal blood supply. The openings into the sac were closed with fine silk and the sac was obliterated by infolding and suturing with chromic catgut. A small silkworm-gut drain was introduced and left in place for a few days. The collateral circulation proved to be good. The wound healed by primary union, and the patient was discharged cured at the end of a month.

II. VENOUS "ANEURISM" OF THE POPLITEAL SPACE *

Mr. W. S. A., a merchant, aged 32, a patient of Dr. W. H. Hutchinson of Childersburg, Ala., first consulted me on Nov. 30, 1908, for a vascular swelling of the right popliteal space. He had been under the care of Dr. R. H. Cranford of Moselle, Miss., who after discussing the case with Dr. R. Matas of New Orleans, came to the conclusion that it was an ordinary arterial aneurism and advised him to go to New Orleans for operation. The swelling had first made its appearance about four years before. The patient experienced no pain or discomfort from it until about three months before the consultation, when he began to have a dull aching pain in the calf of the leg and lower part of the thigh. There was nothing in his family history bearing on the condition. He had always had good health and denied any specific trouble. He had an inguinal hernia on the same side, which he first noticed ten years ago following a blow in the groin. He wore a truss and experienced no inconvenience from this. There were no enlarged veins on the legs or any part of the body.

On inspection the popliteal space presented a soft vascular swelling about the size of a large English walnut; no pulsation could be felt, but there was some tenderness on palpation; no bruit; when the patient was lying down the tumor completely disappeared. A diagnosis of venous aneurism was made and operation advised.

The patient was admitted to the private wards of St. Vincent's Hospital a week later, and under ether the swelling was dissected out, a tourniquet having been applied in case there should prove to be an arterial connection. The vein showed a

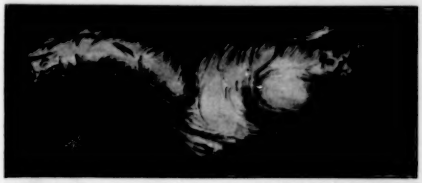


Fig. 1.—Venous aneurism; specimen distended with paraffin and hardened in formalin.

Fig. 2.—Venous aneurism; specimen laid open after having been filled with paraffin and hardened in formalin.

thin saccular appearance and was excised between ligatures, a small branch on the under surface also being ligated. The wound was closed, after inserting a small silkworm-gut drain, and healed by primary union. There was no pain or discomfort after the operation. The patient left for his home at the end of two weeks, and reports at the end of six months that he has been relieved of all pain and is perfectly well.

* Dr. Matas suggests "venous ectasy" or "venous sac" as a more suitable term to be used in this case.

Fetus Born Disemboweled.—Dr. J. M. O'Connell, Ponca, Neb., reports a rare obstetric case as follows: Mrs. E. G., aged 19, a well developed primipara, had her last menstruation September 10, and gave birth, May 12, to an 8½ pounds, male, R. O. A. presentation. The time of labor was fourteen hours, of the first stage, thirteen hours. The babe was delivered with complete evisceration of the intestines, through a transverse laceration of the abdominal walls, adjacent to the umbilical cord on its right, and extending about one inch. Nature's efforts were uninterrupted by anesthesia, or instrumental or other interference. The tissues surrounding the umbilical vessels were not unusually thin in texture. The infant never thoroughly reacted from the shock, and succumbed in eighteen hours. Why should such a condition obtain, unless because the legs of the fetus were flexed the reverse of their accustomed position in the pregnant uterus, thus producing a tense and convex prominence of the infant's abdomen in the actively contracting womb, whose expulsive efforts ruptured the babe's abdomen with the result stated? The literature at my command records no analogous case.

A METHOD OF DIAGNOSTICATING FLOATING KIDNEY BY THE X-RAY

SIDNEY LANGE, M.D.
Radiographer to the Cincinnati Hospital
CINCINNATI

The great advance in *x*-ray technic in the last few years has not only put the diagnosis of renal calculi on an accurate basis, but has rendered visible the kidney itself. Not many years ago it was considered remarkable to obtain an outline of the kidney on the skiagram. Now it is a common observation. Indeed, where the technic has been perfected it is a routine matter to obtain the kidney shadow, the technical prerequisites being a soft tube and a quick exposure while the patient suspends respiration. In this way I have been able repeatedly to diagnosticate nephroptosis and have seen the diagnosis verified by palpation or operation.

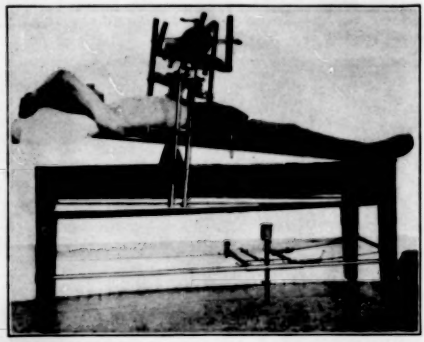


Fig. 1.—Skiagraphing floating kidney, first position.

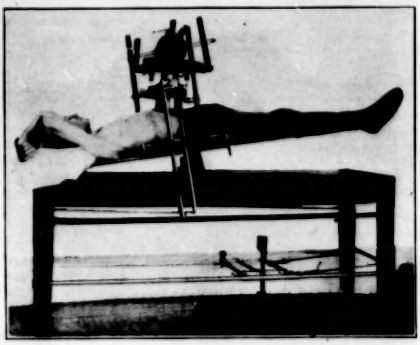


Fig. 2.—Skiagraphing floating kidney, second position.

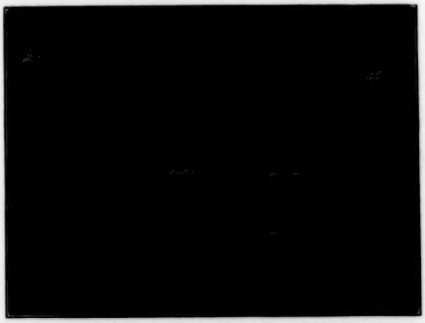
It occurred to me that the *x*-ray diagnosis of floating kidney could be made uncontrovertible by showing the kidney outline in different places on two skiagrams taken at different times or in different positions. The accompanying photographs illustrate a method (suggested to me by Dr. R. W. Thomas) of skiagraphing a floating kidney in two positions. Starting with the patient in the standing position in which the loose kidney descends to its lowest point, the patient is placed on the inclined plane with the feet low, and the kidney region is skiagraphed (Fig. 1). The incline is then reversed, making the head low and allowing the kidney to slide cephalad. Manual pressure may aid in causing the kidney to slide back into its niche. Another skiagram is then made, as shown in Figure 2.

22 West Seventh Street.

TEST-TUBE RACK USED IN THE PREPARATION OF LOEFFLER'S BLOOD SERUM

J. ALLEN JACKSON, M.D.
Pathologist, Central Indiana Hospital for the Insane
INDIANAPOLIS

The technic we use in this hospital in the preparation of the blood serum culture media does not vary from that given in text-books, except in one particular. At the time of coagulation we place the tubes on a rack which we have devised, which is so designed that it will fit in any medium-sized Bausch and Lomb hot air sterilizer, thus giving better results. It will not be amiss, however, briefly to recapitulate the technic.



Test-tube rack. It should be placed so as to secure equal distance from all sides of the sterilizer.

Blood from the bullock, killed preferably by the Jewish method, is received in a clean gallon bottle. The bottle is then placed in the refrigerator and allowed to stand for twenty-four hours, thus allowing the blood to clot firmly.

The serum is pipetted off, care being taken not to break the clot, thus keeping the serum as clear as possible. The serum is then taken and mixed with glucose bouillon in the following proportion: glucose bouillon 1 part, beef blood serum 3 parts.

Tubes are then filled with the mixture, to the depth of 3 or 4 cm. They are then placed on the rack, which gives them the proper slant. They are then placed in the hot-air sterilizer and submitted to a temperature of 85 to 90 C. "The temperature should not exceed 90 C. or fall below 85 C., and the door should be kept closed."[1] At this temperature they are allowed to remain two hours. They are sterilized by being submitted once, in an autoclave, to a temperature of 110 C. (six pounds pressure) for fifteen to twenty-five minutes.

1. Mallory and Wright: on "Pathologic Technic."

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My friend Mr. Cobb has ingeniously made a very useful and inexpensive test-tube rack, consisting of four upright posts (the two anterior measuring 10 inches in height, the two posterior measuring 11 inches in height), joined by two cross-bars at each end (measuring 6 inches in length) and longitudinally by eight bars (four anterior and four posterior, measuring 15 inches in length). The four anterior are placed at a lower level than the posterior ones, in order to give the "rests" a slope of half an inch. Extending crosswise from the longitudinal bars there are series of "scalloped rests." Each layer will support twelve tubes, and the longitudinal bars support four layers, thus making the capacity of the rack forty-eight tubes. At the foot of each layer there is a thin foot-rest to prevent the tubes from slipping forward.

This apparatus can be modified, increasing the capacity of the rack, but the principle to be borne in mind is the slanting fixed rests made of wood and the proper distance of the tubes from the walls of the sterilizer.

The advantages of this apparatus are: 1. The proper distance from the wall of the sterilizer is secured. 2. An equal distribution of heat is secured for the tubes as nearly as possible. 3. There is an even, smooth and properly proportioned slanting surface in each tube.

I wish to thank Mr. Cobb for the interest he has taken in perfecting the apparatus, as well as Dr. J. J. Hoffman for the accompanying illustration.

BOTTLE IN THE RECTUM

ISAAC L. FIREBAUGH, M.D.
ROBINSON, ILL.

On the morning of May 31, 1909, a man, aged 46, unmarried, came into my office with this statement: "Doctor, I have a bottle in my bowels." Examination showed a large bottle, one end resting well above the sphincters in the hollow of the sacrum, while the other end could be distinctly felt through the abdominal wall just behind and beneath the navel. The patient stated that he had fallen on the bottle at 10 o'clock the night before. About the only symptoms were an irritation of the bladder, with a desire to pass water every few minutes. He was sent to the Robinson Hospital and made ready for operation.

At 10 a. m. an anesthetic was given, a catheter passed into the bladder about a dram of urine drawn, and the sphincters were widely dilated. After an ineffectual effort at extraction with the fingers a slip noose of stout tape was worked up around the body of the bottle, when by traction on the tape and the use of one blade of obstetric forceps used as a sort of vectis and as a skid over the back of the spincter muscles, the bottle was delivered intact. The bottle is 8 inches long and 7½ inches in circumference, and therefore 2½ inches in diameter. There appeared to be little or no laceration. The patient left the hospital that evening and went to work the next morning and has worked ever since.

Pubiotomy in Argentina.—E. Canton has performed the true Gigli operation in 4 and the subcutaneous operation in 20 cases, his list being the first long series of pubiotomies yet published in South America. It forms the leading article in the *Semana Medica*, of March 11, 1909, accompanied by illustrations and the details of the 24 cases. The ultimate outcome was satisfactory and there has been no incontinence or prolapse in any of the patients. All recovered but one, who succumbed during convalescence to pneumonia. All the children were delivered alive but two died soon after birth as labor had been too long under way before the patients arrived at the hospital. His verdict is most favorable.

CASE OF PURPURA FULMINANS

F. E. BERTLING, M.D.
SPOKANE, WASH.

The patient was a healthy young man, aged 18. He awoke in the morning with a severe sore throat. He used hydrogen peroxid as a gargle and went to work as usual. In the evening his throat was not much better, so he used the peroxid gargle again. The next morning I was summoned and found him with a temperature of 106 F. and a very severe membranous angina. Owing to the presence of scarlet fever in the near neighborhood, I made a provisional diagnosis of scarlet fever, but took a culture for diphtheria nevertheless. My scarlet fever diagnosis was apparently justified, for that evening there was a brilliant scarlet rash all over the neck, chest and abdomen, which by the next morning also covered the lower limbs. At noon of this day a bluish-black discoloration appeared on the upper part of each thigh and the lower part of the abdomen. The young man was delirious, his extremities were cold and the discolored area extended rapidly, the patient passing away at 4 a. m. the next morning, about seventeen hours after the first appearance of the purpuric rash and about seventy hours after the first symptoms of illness were noticed. The culture was negative for diphtheria. No autopsy could be secured.

208 Granite Block.

Longer Daylight.—There are a great many things to be said in favor of advancing the clock by one hour during the summer. The principal object is to apportion a larger part of the period of daylight to evening rest and recreation. The close of the working day is so near sunset that by the time the evening meal is over the stretch of remaining daylight is too short for any lengthy outdoor pastimes. Those who have spent part of the summer in northern latitudes, where the later sunset and longer duration of twilight combine to make the summer evenings the most delightful period of recreation, understand perfectly the motive and force of the arguments which have led to the present widespread movement in favor of a longer daylight day. The evening is the ideal time for outdoor recreation. The mind and body are relieved of the stress of the day's occupation, and the temperature is cooler. The arrangement advocated by the National Daylight Association is that from and after 2 o'clock in the morning of the first day of May in each year, until 2 o'clock in the morning of the first day of October, the standard time shall be one hour in advance of the standard time now in use. This result is to be secured by advancing the hands of the clock one hour on May 1 and moving them back one hour on October 1. The change would involve a shortening of the hours of sleep only on the last day of April. Subsequently through the summer months people would get up and retire by the clock as usual, and the regular schedule of railroads, factories and all social institutions would be maintained as before. The public would have the benefit of two or three hours of daylight after the evening meal, instead of one or two hours as under the present arrangement. Some adjustment of railroad schedules would be needed on the two days which marked the opening and close, but with those two exceptions regular schedules could be maintained. A bill before the British Parliament for a change similar to that related above has the indorsement of the Education Committee of the London County Council, of over one hundred municipal corporations and town councils, of the national convention of Royal Burghs of Scotland representing about two hundred towns, and of one hundred and thirty chambers of commerce, associations, and clubs. A similar bill is before the Canadian Parliament, and the special committee to which it was referred says that, in view of the almost unanimous support of the bill, and its facility, it should be put in force as soon as possible. It is probable that a similar bill, which has already received wide journalistic indorsement, will be introduced in France.—Abbreviated from the *Scientific American*.

AN IMPROVED RECTAL IRRIGATING TUBE*

A. L. WOLBARST, M.D.
Consulting Genitourinary Surgeon, Central Islip State Hospital; Attending Genitourinary Surgeon, Beth Israel Hospital and West Side German Dispensaries
NEW YORK CITY

In the treatment of inflammatory conditions of the prostate, applications of heat or cold, by means of a recurrent rectal irrigating tube, are often found to be of considerable value. I have employed most of the models on the market, notably the Kemp and the Chetwood tubes. These tubes seem to me to have two serious disadvantages, which I have tried to remedy in the model here presented (Fig. 1). Both the Kemp and Chetwood tubes are made entirely of glass, pressed-rubber or metal, and when inserted into the rectum are apt to cause severe pain when the hard and firm tip comes into contact with the tender and inflamed prostate; then, too, the inflow of fluid into the rectum is through one or, at most, two openings. These openings are often obstructed by contact with the rectal wall or fecal matter, and the effectiveness is thus diminished.

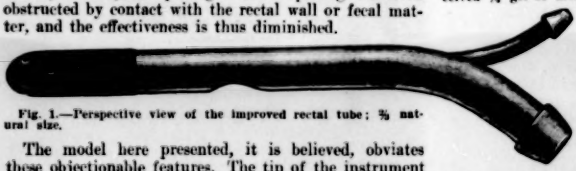

Fig. 1.—Perspective view of the improved rectal tube; ⅔ natural size.

The model here presented, it is believed, obviates these objectionable features. The tip of the instrument is of soft, pliable rubber, which gives easily on contact with the rectal wall, and the flow of fluid into the rectum is through a number of small openings, thus providing a fountain spray instead of a single or double jet.

The apparatus consists of two tubes, a small one inside of a larger. The water enters through the small tube (Fig. 2, A) and fills up the soft rubber pouch (Fig. 2, B), which is perforated with numerous pinhead openings, through which the fluid enters the rectum. Escape from the rectum is only possible through the large opening (Fig. 2, D) in the larger tube (Fig. 2, C). The external sphincter (Fig. 2, F) prevents any outflow at the anus.

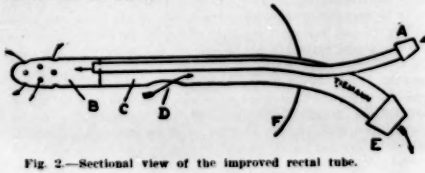

Fig. 2.—Sectional view of the improved rectal tube.

The instrument is made of nickel-plated brass tubing, with a soft rubber tip; the total length is seven inches, including the rubber tip. The diameter is equivalent to 38 of the French scale. The soft rubber tip projects 1⅜ inches beyond the end of the large tube; it is slipped over the bulbous end of a short metal tube, the distal end of which is provided with a male thread, which is screwed into the end of the large tube (Fig. 2, C) and thus securely wedged in place. We are also thus enabled to unscrew the rubber tip and thoroughly clean it and the metal tubes at will.

105 East Nineteenth street.

* Presented at the meeting of the American Urological Association, at Atlantic City, N. J., June 8, 1909.

A CASE OF VEIN ANESTHESIA

LEIGH F. WATSON, M.D.
OKLAHOMA CITY, OKLA.

I think it worth while to report the following instance of vein anesthesia, a method recently proposed by Bier[1] and described in THE JOURNAL.[2]

History.—R. N., aged 21, on June 24, 1909, stepped on a rusty nail which penetrated the sole of the left foot one inch. The foot and ankle began to swell immediately. The next day he was admitted to Rolater Hospital and treated in the service of Dr. J. B. Rolater. On admission his temperature was 102 F., later it rose to 103 F.

Treatment.—Hot moist dressings of cresol solution were applied and changed frequently and antitetanic serum administered. Under vein anesthesia, an incision two inches long and one and a half inches deep was made over the wound caused by the nail. After thorough curetting the wound was cauterized with phenol, followed by alcohol and then with tincture of iodin, and finally a hot dressing of cresol solution was applied. Fifteen minutes before the operation, the patient received ¼ gr. of morphin sulphate hypodermically. A tourniquet was applied just above the knee. A solution of cocain hydrochlorid 0.2 per cent. in physiologic saline solution was prepared, 15 c.c. (cocain, gr. ½) of this solution was injected into the external saphenous vein in the upper third of the leg. Anesthesia appeared in thirty minutes as a sensation of numbness, but did not extend above the level at which the cocain solution was injected. The wound was allowed to bleed freely as the tourniquet was gradually loosened. Sensation appeared almost immediately on removing the tourniquet, although before it was loosened the patient said he felt very comfortable and somewhat sleepy, the latter probably due to the morphin and the sequestration anemia (Dawbarn).

1. Arch. f. klin. Chir., Berlin, lxxxviii, 1908, No. 4.
2. THE JOURNAL A. M. A., May 1, 1909, page 1466.

Therapeutics

ACUTE RHEUMATIC FEVER

Dr. J. C. Meakins presents the results of his investigations as to the etiology of this disease in "The Medical and Surgical Report of the Presbyterian Hospital of New York City" (vol. viii, December, 1908). His experiments seem to bear out the pretty general belief that this disease is due to the streptococcus, but that there is any one strain of the streptococcus family that is the only cause of this disease seems not to be proved and seems not to be a fact. Meakins has found streptococci in the tonsils of patients suffering from rheumatic fever, and believes that the recurrent attacks of the disease are often due to reinfection from these streptococci which have been harbored in the deeper tonsillar tissue. He believes that the tonsils, and probably the pharynx, are the most frequent portals of entrance of the infection, although they are probably not the only way in which the streptococcus infection reaches the blood. He thinks it probable that the infection may enter the blood through the intestinal mucosa.

The practical application of these investigations is as complete an antiseptic treatment of the mouth, throat and gastrointestinal tract during rheumatic fever as is possible. The mouth and throat should be washed and gargled with peroxid of hydrogen solutions, boric acid and alkaline cleansing solutions almost as frequently

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and persistently as in follicular tonsillitis and diphtheria. Probably nasal sprays and postnasal cleansing with mild alkaline solutions are also advisable.

The intestinal canal should be kept active with saline cathartics, the excessive action from which may be inhibited with small doses of morphin, as 1/10 of a grain, and the best bowel antiseptic should be administered. It is a fact that the specific for acute rheumatic fever, viz., salicylic acid, is also the best bowel antiseptic that we possess. Therefore, salicylic acid in some form is the drug that should be administered. The best form in which to administer it and the size and frequency of the dose must depend on the individual patient. Theoretically, from the antiseptic standpoint, small doses frequently repeated should be the most efficient.

Salicylic acid is generaly best administered in the form of sodium salicylate as it is absorbed mostly as a sodium salt and as the latter is less irritant to the stomach than the former. Phenyl salicylate (salol) is the pleasantest method of administering it by the stomach, but the phenol it contains may cause irritation of the kidneys, and certainly salol should not be administered if there is albuminuria. The many other preparations of salicylic acid that are bland for the stomach really represent but small doses of the acid; therefore, generally, instead of prescribing an expensive patented preparation of salicylic acid, the dose of the sodium salicylate should simply be made smaller, and unpleasant symptoms will be prevented.

Certainly large doses of salicylic acid, in any form, sufficient to cause salicylism (ringing in the ears, fulness of the head, flushing of the face, irritation of the skin, and slight cardiac disturbance) should be administered only for a day or two. Small doses can be long tolerated without discomfort or any unpleasant or undesirable symptoms. In other words, as soon as the joint pains have become lessened, the dose of the salicylate should be reduced. It should also be remembered that the salicylic acid prepared from vegetables is but little depressant, and perhaps not at all depressant, to the heart, while synthetic salicylic acid is depressant to the heart and should never be given internally.

BOILS

Dr. G. T. Jackson, New York, describes his treatment of these troublesome affairs in the *American Journal of the Medical Sciences*, June, 1909. He believes that boils are entirely due to local infection with staphylococci; that they occur most frequently at parts that are injured or irritated, as the back of the neck, from the chafings of stiff collars; that groups of boils occur from the spreading of the infection; and that the same infection can cause an epidemic of them in groups of associated persons. In other words, he does not believe that a constitutional disturbance has anything to do with the eruption of boils. Anything that causes irritation of the skin, as scabies, and the itching and consequent scratching and abrasion of the skin gives an opportunity for the pus organism to gain access to the deeper tissues.

Although boils are not caused by a constitutional condition, it is certainly true that eradication of the infection is much easier when the systemic condition is perfect than when the normal fighting power or tone of the individual is deteriorated. Therefore, it seems to be true that when there is constitutional weakness and a boil develops others are more likely to occur than in individuals who are otherwise well.

The old-fashioned poultices to hasten the "pointing" of the boil is a very good way of causing the infection to spread and to infect other parts. Such warm, moist, sticky applications most beautifully promote the growth of the germ of infection, and especially after the boil has been opened.

Jackson's method of treating boils, which method he attributes to Dr. George H. Fox, is as follows:

If the patient is seen before the boil has "pointed," "it may be aborted by injecting into it a drop or two of a 5 to 10 per cent. solution of phenol (carbolic acid), or by just touching the raised surface of the boil with 95 per cent. phenol and then covering the boil and the surrounding surface of the skin with an ointment containing from 5 to 10 per cent. of salicylic acid."

If the boil has already pointed, "a small bit of cotton is wound around a sharp pointed stick, which, after being dipped in a 95 per cent. phenol solution, is bored into the soft point of the boil." This is only slightly painful, as the phenol quickly anesthetizes the injured nerves. The pus is thus allowed to escape, and the inside of the boil is disinfected. The indurated mass of the boil should not be squeezed, as by Nature's process the infected region has been thoroughly surrounded by walls of protective leucocytes. Next, "the skin in the region of the boil is washed with peroxid of hydrogen solution or with bichlorid of mercury solution (1 to 1,000), and then a 5 to 10 per cent. salicylic acid ointment is spread on cloth, or several layers of gauze, and gently laid over the boil and surrounding region."

Jackson says that this is generally the end of the boil, but if it is a large one the operation may be repeated on the next day. The ointment should be kept constantly on the affected part for a week. Adjacent boils, or boils on other parts of the body, occurring from a transference of the infection, should be treated in the same way.

If there is severe pain from the distention or congestion of the part affected, instead of using the warm poultices which certainly do relieve pain, although tending to spread the infection, "compresses of hot boric acid solution may be used."

A 10 per cent. salicylic acid ointment may be made as follows:

R.	Gm.		
Acidi salicyli	5		ʒiss
Unguenti	50	or	ʒii

M. et Sig: Use externally as directed.

The value of the injection of antitoxic serums made from the infection present in the individual, when furunculosis is generalized or when recurrent abscesses occur in different parts of the body, should not be forgotten. Also, in recurrent furunculosis and in multiple abscesses the value of the internal administration of yeast should be remembered.

Determination of Urea and Ammonia.—The proposition of Spiro to combine the determination of urea and ammonia by first eliminating ammonia by the method of Folin and then determining the nitrogen in the residue by the Kjeldahl method is shown by Howe and Hawk, in the *Journal of Biological Chemistry*, February, 1909, to be accurate when applied to mixtures of urea and ammonium chlorid, but they find that it is inaccurate when applied to complex mixtures like the urine because the nitrogen of creatinin and hippuric acid and a part of the nitrogen of the uric acid are determined as urea nitrogen, and it is not possible to apply any correction that will permit one to obtain even approximately accurate data as to the actual urea content of a given urine.

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[For other information see second page following reading matter]

SATURDAY, JULY 31, 1909

TROPICAL DISEASES

The address by Dr. McElroy that appears in this issue, besides being a comprehensive review of the recent advances in our knowledge of tropical diseases, emphasizes a need that is becoming more and more obvious, viz.: the necessity of more attention being given in our country to instruction and research in these diseases. In the British Isles they have already more than one institution specially devoted to this subject, and France and Germany, the other chief colonizing countries, are also similarly provided. We should not lag behind; our interest in the tropics is by no means inconsiderable, and we have even in our home territory large regions that are subject to the invasion of tropical diseases and which afford a favorable soil for their development and spread. Uncinariasis, which is generally counted among the tropical diseases, is endemic in our southern states, and the necessity of our recognizing its existence has been accented very recently by the finding of its prevalence in the army recruits that come to the recruiting offices in various parts of the country. Fortunately, this evil is easily met, but there are others that may become more serious.

A creditable amount of work on tropical diseases has already been done in this country, and much more will probably be done, and can be without entirely meeting our responsibilities in this direction. The medical staff of the army, as exemplified by Colonel Gorgas, and the officers of the U. S. Public Health and Marine-Hospital Service, are doing good work in this line, but there should be better facilities for instruction and research work open to the non-official physicians. A postgraduate school with laboratory under government auspices is the remedy Dr. McElroy seems to favor. There is no question but that it could be very properly considered by the government for its own employés and officials in the government medical services. In such an institution the study of these disorders could be thoroughly carried on.

We should have, not only laboratories for the study of, but schools of instruction in, tropical diseases, whether directly supported by the government or by private endowment, to which any competent physician could have recourse. With our extensive immigration from countries where many of these diseases prevail and our growing intercourse with tropical regions, we will soon not have to go far beyond our own boundaries to find the disorders. They will come to us fast enough, and the more prepared we are to meet them the better it will be for us.

THE HYPOTHETICAL QUESTION IN EXPERT TESTIMONY

Medical expert testimony has received a severe blow from the way it has been used in certain prominent criminal trials of late years. It has been pronounced of no value at all, or even worse than that, by judges in the highest courts, and the public generally has come to place but little faith in the opinions of so-called medical experts. This is due to several causes lying behind the unfortunate exhibitions that have directly given rise to this discredit. The subject is well discussed in a recent paper by A. T. Clearwater,[1] who, very justly attributes part of the evil to the bench and bar. His first reason seems really the principal one; that is the lack of any satisfactory standard of expertness, a condition which invites the testimony of charlatans and unscrupulous pretenders. The laxity of trial judges in admitting testimony and the freedom given to lawyers to make it difficult for a self-respecting person to endure their cross-examinations are also mentioned by him and are not matters to be disregarded. A large part of the criticism which has been made lately has been in regard to the use of the hypothetical question, and the propositions for reform have included sometimes the recommendation of its disuse, or at least its restriction. If this refers only to the tremendously long and involved accounts of supposed events, such, for example, as were used in the Thaw trial, it might be considered to have some justice. Even a Lord Macaulay could hardly keep in mind from beginning to end all the supposed facts included in one of these long-drawn-out narrations, and it would be easy for a tricky lawyer to utilize them in tangling up a witness and damaging his standing with the jury. A well-stated case, however, including the main facts of the testimony in as few words as possible, avoiding any overstatement and putting the facts in such a way that they can be readily compared by the jury with the testimony as to the actual occurrences, seems an excellent way to utilize expert opinion. This is the view of Mr. Clearwater. It would be well also if all the expert testimony could be given after the testimony as to fact has been laid before the jury, and to have the hypothetical question of the prosecution submitted to the opinion of witnesses of both sides. In this way it will often be found that they are practically unanimous, and, the question not being as to facts, can be better compared by the jury with the actual facts as they have heard them stated by the other witnesses. There can be no restriction, as he points out,

1. North American Review, June.

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of the right of either party to call in such witnesses as he may deem important for the maintenance of his cause. Therefore, the possible evil of incompetent experts can not be excluded. Clearwater says justly, moreover, that scientific opinion to be of value must be given under undisturbed mental conditions and the insolence and abuse allowed in some courts are unfavorable for this. While this method of examination puts some witnesses on their mettle it throws the majority, this often including the most competent, into a state of mind that is productive of all sorts of possibilities of error. If trial judges will define to the jury the difference between those qualified to speak on the subject and those who are not, as it is perfectly possible for them to do, it will tend, as Mr. Clearwater says, to obviate the evil of mercenary and incompetent experts. He recommends the bill that failed to pass the last New York legislature, providing for a judicial selection of between ten and sixty qualified physicians, as an approach to the solution of this important problem.

This evil of mercenary so-called experts will probably last so long as the courts will tolerate it. There will also probably always be some prejudiced though not bad-intentioned physicians who will pose as experts without being such in the true sense of the word, and there may be plenty of persons of real acquirements and good intentions who can not give an unbiased opinion on subjects in which, for any reason, they are deeply interested. With all these drawbacks, however, it is possible to improve greatly the status of medical expert testimony before the courts and public, but to do this will need the cooperation of the bench and bar as well as of the medical profession.

BACTERIA IN TOP MILK

An interesting and practical point concerning the use of milk in infant-feeding is discussed by Anderson,[1] who has recently investigated the relative proportion of bacteria in the top or cream layer and in the skim milk and sediment.

As is well known, writers on infant-feeding commonly advocate the use of the top layer—a third, fourth or fifth—after the milk has stood for several hours whereby different percentages of fat may be obtained, depending on the length of time the milk has stood. Now Anderson by bacteriologic methods shows in a series of experiments that the top layer contains from ten to five hundred times as many bacteria per cubic centimeter as the mixed milk. For example, in thirty samples of bottled milk examined the average number of bacteria in gravity raised cream was 69,211,000 and in the lower layer 4,360,000 per cubic centimeter. A similar but greater difference exists between the bacterial content of centrifugally raised cream and the milk itself.

It is an interesting fact that when milk is centrifuged or allowed to stand the great mass of bacteria rises with the cream particles while a much smaller number is carried down. Anderson has previously shown[2] that when guinea-pigs are inoculated with cream a much higher percentage die of acute infections than when the sediment is used; and it has been shown by Hess[3] that, if tubercle bacilli are present, the cream contains a larger number of these organisms than the skim milk.

These facts point to the greater danger, not only of acute intestinal diseases, but also of tuberculous infections from the use of top milk as compared with whole milk in infant-feeding. Anderson states that this may be the explanation of the fact that often infants do poorly on such preparations and that possibly the bacterial content may be responsible for this, especially in cases of diarrhea, rather than faulty proteid or fat content.

While these facts give grounds for preference for the use of whole milk over top milk when cow's milk must be used, they are a strong additional argument for the use of mother's milk rather than any modification of cow's milk in infant-feeding.

1. Jour. Infect. Dis., 1909, vi, 392.

TO INCREASE THE HOURS OF DAYLIGHT

The interesting proposal to advance the time of day one hour in May and change back again in October is receiving much attention in this country. We have already commented[4] on the British bill, which seems likely to pass. We now learn that a similar bill before the Canadian parliament is almost unanimously supported, while France is about to take up the matter, and one American city is in the throes of discussing the adoption of the plan without waiting for the rest of the country. The National Daylight Association, however, is making a serious proposal to secure this change throughout the United States. There is little to be said against the proposal and very much in its favor, and physicians will no doubt do what they can to further the project. It will certainly be an improvement if we can take more of our sleep in darkness and more of our waking hours in daylight.[5]

Be Thankful.—If you have the sense to realize that this is inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first delicate situation that arises, the difficulties will disappear and recurrences may be made impossible. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction, and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instinct and who has a sane outlook in life.—William Osler.

2. Bull. 41, Hyg. Lab. U. S. P. H. and M.-H. S., 1908, p. 163.
3. Pediatrics, New York, August, 1908.
4. THE JOURNAL, July 25, 1908, pp. 324 and 328.
5. This subject is further discussed on page 383 of this issue.

petency of a jury to determine mental disease Dr. Lamb said that to the experience of both law and medicine it appeared little short of farcical.

Buffalo

Personal.—Drs. Harry Mead and Max C. Breuer have gone abroad.——Dr. Robert F. Sheehan has been appointed professor of hygiene at the University of Buffalo to succeed Dr. Henry R. Hopkins, who has been appointed emeritus professor of hygiene.——Dr. Herbert Hill has resigned as professor of chemistry, toxicology and physics.

Work of the Erie County Hospital for 1908.—The medical staff of Erie County Hospital, in a communication to the board of supervisors, states that the average population of the hospital for the year 1908 was 406, and the highest population for any month during the year was 433, in March. "Under proper conditions the institution can care for 350 patients, but by crowding beds in the corridors and sleeping 20 more in an annex of the almshouse building, the surplus has been taken in." For the six months of the present year the average population has been 434, while March shows an average of 472.

New York City

Medical School to Be Remodeled.—Plans have been filed for remodeling the two buildings of the New York University and the Bellevue Medical schools.

Personal.—Drs. Charles L. and Orlando S. Ritch, Brooklyn, have been added to the list of the staff of the State Department of Health.——Dr. and Mrs. John E. L. Davis and Dr. and Mrs. Edward E. Hicks have sailed for Europe.

Funds to Equip Hospital.—The deficiency bill passed by the House of Representatives carries an appropriation of $20,000 to equip the contagious disease hospital at the Ellis Island immigration station.——The Babies' Hospital announces the completion of the fund of $100,000 to erect an addition to the present building. This addition, besides other features, will provide a special ward for the care of prematurely born infants, and a roof garden for tuberculosis and acute intestinal diseases.

Another Ferryboat Becomes a Hospital.—The old ferryboat Susquehanna has been remodeled into a floating hospital and fifty consumptives have been moved on board. Funds were provided for this enterprise by the Brooklyn Bureau of Charities and Miss Mary Harriman.

Congestion of Population.—A conference on congestion and city planning in connection with an exhibit was in progress for about five days at 178 Park Row, under the auspices of the Committee on Congestion of Population in New York. The object of the exhibition was to show that Italians could not live decently on small wages in New York City. Suggestions as to where they might move and better their conditions were dwelt on by the speakers.

Report on Tuberculosis Exhibit.—The Committee on the Prevention of Tuberculosis of the New York Charity Organization Society announces that the fund available for conducting the international tuberculosis exhibition, held from Nov. 30, 1908, to Jan. 17, 1909, amounted to $35,278, of which $23,003 represented contributions. The Russell Sage Foundation made two bequests, one of $10,000 and one of $1,500. The total attendance at the exhibition was 753,927, a daily average of 15,386. The meetings held during the exhibition were addressed by 191 different speakers and were attended by 42,623 persons.

PENNSYLVANIA

Asylum Contracts Awarded.—At a meeting of the State Homeopathic Hospital Commission, held in Allentown, July 20, the contract to continue construction to the extent of $338,600 on the Allentown Insane Asylum was awarded. Three wards, two chapels and three corridors will be built, but this will not finish the institution. For its completion the commission obtained an appropriation of $875,000 from the last legislature, but the governor was forced to cut it to $400,000.——The contract for the construction of the State Hospital for the Criminal Insane, Fairview, has been awarded for $76,500. The cornerstone of the building was laid July 23.

Philadelphia

Nurses' Registration Board Officers.—Dr. William S. Higbee has been elected president of the newly appointed State Board of Examiners for the Registration of Nurses; Miss Roberta M. West, of Erie, vice-president, and Dr. Albert Blackburn, secretary-treasurer. Until June 1, 1910, all persons having qualifications under the act need not be examined for registration.

Tuberculosis Instruction in the Public Schools.—With the opening of the public school year this fall the Pennsylvania Society for the Prevention of Tuberculosis will begin a school campaign against the spread of consumption. Tuberculosis exhibits will be placed in all the grammar and secondary schools and lectures will be delivered to the pupils by physicians on the methods to be employed to eradicate and prevent the spread of the disease. In addition the society hopes to use the school as a neighborhood center and thus reach the homes represented at each school.

SOUTH DAKOTA

Assaulted Because of Quarantine.—Dr. A. O. Fasser, Vale, following an argument regarding the quarantine of a case of scarlet fever, was assaulted and seriously injured. For a time his life was despaired of, but he is now believed to be convalescent.

TENNESSEE

College Incorporated.—The College of Physicians and Surgeons of Memphis has been incorporated by Drs. Heber Jones, Kirkwood McKinney, C. H. Raine, E. Michel Holder, J. Augustus Crisler, Maximillian Goltman, George G. Buford and William Krauss. Application to amend the charter of the College of Physicians and Surgeons was filed in Memphis June 11. It is sought to change the name of the organization and to increase the capital stock from $40,000 to $50,000.

State Board Officers Re-elected.—At the annual meeting of the State Board of Medical Examiners in Nashville, the following officers were re-elected: Dr. Eugene E. Hunter, Elizabethton, president; Dr. William H. Halbert, Nashville, vice-president; and Dr. Charles A. Abernathy, Pulaski, secretary-treasurer. Dr. Frank S. Raymond, Memphis, has been reappointed a member of the State Board of Medical Examiners. Dr. Thomas E. Abernathy, Chattanooga, has been reappointed a member of the State Board of Health.

Society Meetings.—The West Tennessee Medical and Surgical Association, at its annual convention held in Jackson, elected the following officers: President, Dr. Frank James, Memphis; vice-president, Dr. David A. Walker, Trenton; and secretary-treasurer, Dr. Isaac A. McSwain, Paris.——The Medical Association of McNairy and West Hardin counties was reorganized June 7, and the following officers were elected: Dr. W. H. Hodges, McNairy, president; James L. Smith, Selmer, vice-president; Dr. W. T. Bell, Selmer, secretary; and Dr. John R. Smith, treasurer.

Faculties Combined.—Practically all of the details of the merger of the medical departments of the University of Nashville and University of Tennessee were agreed on at a meeting held July 20. Dr. Robert O. Tucker was elected dean and Mr. E. F. Turner, registrar. A committee composed of Drs. Robert O. Tucker, William D. Haggard, Charles Brower, and Joseph P. Keller reported the assignment of members of faculty, and Drs. Charles Brower, Robert O. Tucker and William D. Haggard were appointed committee to take charge of the erection of a new hospital. The following is the assignment of members of the faculty: Dr. William E. McCampbell, professor of theory and practice of medicine and clinical medicine; Dr. Hazel Padgett, professor of nervous and mental diseases and clinical medicine; Dr. Clinton E. Brush, professor of principles of medicine and clinical medicine; Dr. William A. Oughterson, professor of physical diagnosis and clinical medicine; Dr. Hilliard Wood, professor of diseases of eye, ear, nose and throat; Dr. Charles Brower, professor of surgery and clinical surgery; Dr. Perry Bromberg, professor of principles of surgery and genitourinary surgery; Dr. Robert Caldwell, professor of practical and operative surgery; Dr. Thomas G. Pollard, professor of principles of surgery and venereal diseases; Dr. Robert O. Tucker, professor of obstetrics and midwifery; Dr. George Trawick, professor of obstetrics and demonstrator of midwifery; Dr. William D. Haggard, professor of abdominal surgery, gynecology and clinical surgery; Dr. Charles N. Cowden, professor of gynecology; Dr. Holland N. Tigert, professor of gynecology; Dr. Alberto Hudson, professor of anatomy; Dr. E. M. Sanders, professor of anatomy and demonstrator of surgical laboratory; Dr. A. L. Sharber, professor of surgical and visceral anatomy; Dr. Joseph P. Keller, professor of physiology and demonstrator of physiologic laboratory; Dr. Daniel B. Blake, professor of materia medica and therapeutics; Dr. Thomas F. Dunn, professor of materia medica; Drs. W. E. Hibbett and Samuel M. Bloomstein, professors of diseases of children; Dr. W. Frank Glenn, special lecturer on syphilology; Dr. J. I. D. Hinds, professor of chemistry; Dr. James S. Ward, professor of chemistry and demonstrator of chemical laboratory; Dr. Newton S. Evans, professor of pathology and demonstra-

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tor of microscopic, bacteriologic and pathologic laboratory; Dr. Charles G. Griffin, assistant demonstrator; Judge Bonnor, professor of medical jurisprudence; Dr. J. F. Gallagher, demonstrator of anatomy; Drs. Mason P. Guill, John M. Lee, B. E. Britt and W. F. Fessey, assistant demonstrators of anatomy; Drs. J. W. Bauman, H. T. Brooks, C. W. Brown, N. B. Parrish, R. L. Dozier, J. P. Schell, P. G. Morrissey, E. C. Demoss and N. B. White, clinical assistants.

WEST VIRGINIA

Personal.—Dr. William H. McLain has been reappointed health officer of Wheeling.——Dr. Abel H. Thayer, Grafton, was overcome by heat in his office July 1, but is reported convalescent.——Drs. Edgar B. Plant and John J. Allen, Wheeling, have been appointed coroner's physicians of Ohio county in place of Drs. Edward L. Armbrecht and Joseph R. Caldwell, whose terms have expired.

Anti-Tuberculosis League.—The directors of the Anti-Tuberculosis League of Wheeling at its recent meeting elected Dr. Harriet B. Jones, president, and Dr. Eugenius A. H. Hildreth a member of the executive committee.——Dr. Fleming Howell, Clarksburg, has been elected president of the Anti-Tuberculosis League of Harrison County, and Drs. Charles W. Haltermen, Thomas M. Hood and Selma M. Mason have been made a committee on clinics.

State Board Appointments.—The following members of the State Board of Health have been appointed by the governor: First district, Dr. Charles W. Halterman, Clarksburg, vice Dr. David P. Morgan; Second district, Dr. Luther S. Brock, Morgantown, vice Dr. M. H. Proudfoot, Rowlesburg; Third district, Dr. Martin V. Godby, Peytona, vice Dr. Timothy L. Barber, Charleston; Fourth district, Dr. Alfred N. Frame, Parkersburg, reappointed, and Fifth district, Dr. Robert E. Vickers, Huntington, reappointed.——The State Board of Optometry, organized July 1, at Charleston, has elected Dr. Eugenius A. H. Hildreth, Wheeling, secretary.

GENERAL NEWS AND COMMENT

Hospitals and the Tariff.—We are informed that the provision in the proposed tariff to allow hospitals and municipal laboratories to import, duty free, instruments and apparatus for their own use, has been stricken out by the conference committee.

Tri-State Society Meeting.—At the annual meeting of the Northern Tri-State Medical Society of Ohio, Michigan and Indiana, the following officers were elected: President, Dr. Charles B. De Nancrede, Ann Arbor, Mich.; vice-president, Dr. James A. Duncan, Toledo, Ohio; secretary, Dr. George W. Spohn, Elkhart, Ind. (re-elected); and treasurer, Dr. Joseph A. Weitz, Montpelier, Ohio (re-elected). The next meeting is to be held in December at Fort Wayne, Ind.

Meeting of Sioux Valley Physicians.—The annual meeting of the Sioux Valley Medical Association was held recently in Cherokee, Iowa, and the following officers were elected: President, Dr. Nelson M. Voldeng, Cherokee, Iowa; vice-presidents, Drs. Joseph G. Parsons, Sioux Falls, S. D., and Alfred E. Spaulding, Luverne, Minn.; secretary, Dr. John E. Garver, Sioux City, Iowa, and treasurer, Dr. Samuel A. Brown, Sioux Falls, S. D. The next meeting will be held in Sioux City in January, 1910.

Missouri Valley Meeting.—The annual meeting of the Medical Society of the Missouri Valley will be held at Council Bluffs, Sept. 9 and 10. Dr. Charles B. Hardin, Kansas City, will deliver the presidential address; Dr. Alfred C. Croftan, Chicago, the address on medicine, and Dr. John E. Summers, Omaha, an address on "Cancer a Constitutional Disease. Its Rational Treatment." Dr. Vernon L. Treynor is chairman of the local committee of arrangements, and the secretary, Dr. Charles Wood Fassett, St. Joseph, will send programs and information to all who desire.

Public Health Education Committee.—The new organization of women physicians, authorized by the House of Delegates of the American Medical Association at Atlantic City, to give instructions as to the prevention of disease, has been formed and named the Public Health Education Committee. THE JOURNAL has commented on this editorially. Dr. Rosalie S. Morton, New York City, has been selected chairman of the executive committee; Dr. Sarah R. Adamson Dolley, Rochester, N. Y., honorary chairman; Dr. Evelyn Garrigues, New York City, secretary; and Dr. Emma C. Hackett, New York City, treasurer. The other members of the committee are Drs. Lillian H. South, Bowling Green, Ky.; Laura L. Liebhardt, Denver; Margaret Holliday, Austin, Texas; Sarah C. Buckley, Chicago; Rose Talbott Bullard, Los Angeles; and Annie Lee Hamilton, Boston.

Warns Against Agent.—In a communication to THE JOURNAL, Dr. Herbert L. Alkire, Topeka, Kan., warns physicians against one L. D. Macy, who claims to represent the Imperial Publishing Co., of New York. He states that Macy's method is to call on physicians for the purpose of selling stereopticon views of anatomy at $45.00, with a discount of $3.00 for cash. On writing to the Imperial Publishing Co., Dr. Alkire was informed that Macy had been dismissed from their service and the physician was advised to take steps to get back money paid. Dr. Alkire reports that he and other physicians are making an effort to find Macy and he is desirous of having any members of the profession notify either Otis Hungate, Topeka, Kan., or himself, should Macy be located.

Immigration and Humanity.—The federal authorities are discussing a recent case in which after some delay, the immigration laws were set aside for humanity's sake. It is stated that an alien, injured at Ridgeway, Ont., could not be taken to a hospital at Welland, Ont., because of the rigid Sunday laws in Canada, so he was taken to Buffalo, which was about one hour distant, in order that hemorrhagic pressure on his brain due to a fractured skull might receive surgical attention. The immigration inspector at first refused him admission to the port of Buffalo on the ground that he was an alien and might become a charge on city or state. After some delay, however, and assurance that neither the city or state would be held responsible for the man, he was allowed to enter the port, was taken to the Sisters' Hospital and an operation performed from which he is recovering.

CANADA

New Wing for Hospital.—The Western General Hospital, Toronto, has erected a new wing at a cost of $100,000.

Personal.—Drs. Herbert A. Bruce, David W. McPhedran, W. Henry B. Aikins and G. A. Stirling Ryerson, Toronto, and Drs. Alexander D. Blackader, Thomas G. Roddick, Francis J. Shepherd and Herbert S. Birkett, Montreal, have gone to Europe.——Dr. Joseph N. Roy, Montreal, has received from the French government the order of the Dragon of Annam on account of efficient services rendered four years ago by Dr. Roy in an explosion on a French warship in Cochin China.——Drs. Harry Meek and Frederick P. Drake, London, have started for Europe.

Maritime Association Meeting.—At the annual meeting of the Maritime Medical Association at Charlottetown, P. E. I., July 14 and 15, the matter of affiliation with the Canadian Medical Association, and the question of reciprocal registration with Great Britain and the Dominion were discussed, the latter being referred to a special committee. Dr. F. Montizambert, Ottawa, director general of public health, delivered an address on tuberculosis, and Lieut.-Col. Carleton Jones, director general of the Army Medical Service, advocated the establishment of a laboratory in connection with the service. The following officers were elected: President, Dr. W. A. Ferguson, Moncton, N. B.; vice-presidents, Drs. J. B. McDonald, Amherst, N. S.; A. G. Ferguson, Dalhousie, N. B.; and Angus A. MacLellan, Summerside, P. E. I.; secretary, Dr. George G. Melvin, St. John, N. B. (re-elected), and treasurer, Dr. George C. Corbet, St. John, N. B.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 17, 1909.

Annual Meeting of the British Medical Association

The seventy-seventh annual meeting of the British Medical Association which is to be held at Belfast, July 23-30, under the presidency of Sir William Whitlaw, professor of materia medica and therapeutics in the University of Belfast, promises to be of unusual interest. The number of sections has been increased to fifteen, a new one, "Hematology and Vaccine Therapy," having been formed. As is most fitting, the man who has led the modern development of vaccine therapy, Sir Almroth Wright, will preside over the section and deliver an address on the retrospect and prospect of this mode of treatment. Ethical questions of great importance will also be discussed. For long the practice of some consultants in seeing privately patients brought to them by the family physician has been considered reprehensible. Some members of the profession go farther and think that consultants should see patients, even those who come to them independently of any physician, only in consultation with one. A committee of the association has reported favorably on the recognition of a special class of practitioners who so confine themselves. They think that by this measure the friction and jealousy which

often arises between the two branches of the profession would be prevented and medical men would unite more cordially for the advancement of the honor and interest of the profession. The hospitals committee will present a report recommending that no new medical institution shall be opened without consultation with the local medical profession through some organized body, such as a "division" of the British Medical Association. It is recommended that the association of the local medical profession in the general management of hospitals and other medical charities is desirable, in the interests both of the institution and of the profession.

A Fatal Shampoo

Considerable sensation has been caused by the death of Miss Dalrymple, aged 29, daughter of a baronet, while her hair was being shampooed with tetrachlorid of carbon. The hairdresser said that she explained the dry shampoo process to Miss Dalrymple and told her that the fumes were obnoxious and might make her feel faint. The window was wide open and the electric fan was working. When she commenced to apply the shampoo Miss Dalrymple appeared to collapse and never rallied. The manager of the department gave evidence that the shampoo had been used 30,000 times without complaint, but he had known of one or two cases of fainting. The physician who was called to the deceased lady said that there was plenty of ventilation, but there was an odor of tetrachlorid of carbon in the room. He had previously seen a lady who had been made faint by the shampoo and he suggested that a ventilating fan should be fitted up, which was done at once. Dr. Spilsbury, pathologist to St. Mary's Hospital, made a postmortem examination and found that the deceased was a subject of the status lymphaticus, which would predispose to sudden death and render her unduly susceptible to inhalation of the vapor. He considered the dry shampoo absolutely safe to a healthy person and to an unhealthy person if the vapor were not inhaled. He attached no blame to the hairdressers. The jury returned a verdict of death from misadventure. There is reason to believe that the tetrachlorid of carbon shampoo is not quite so harmless as this evidence indicates. Two years ago a case was recorded in the *Lancet* in which a lady had her hair shampooed with the tetrachlorid in a bathroom with the window slightly open. She leant over a basin and the hairdresser poured the liquid over her head. She became unconscious and of a bad color and vomited several times. An important point, which does not seem to have been investigated at the inquest, is the position of the head. If the head is held down over a basin, as in the last case, much more of the drug is inhaled and danger of poisoning is increased. The head ought to be held backward. Formerly petrol was used for the dry shampoo in London, but in consequence of its inflammability a fatal case of burning occurred and its use is now forbidden by law. Then tetrachlorid of carbon took its place. This evidently is the first fatality.

Sanitation in the West Indies

At the request of the government of the West Indies for the services of an expert to advise on the steps which should be taken to cope with the present outbreak of yellow fever and prevent its recurrence Sir Rubert Boyce of the Liverpool School of Tropical Medicine visited Barbados. He found that the epidemic was of small dimensions but scattered all over the island. The local health authorities promulgated wise anti-mosquito measures. But few of the houses of the poor had a water supply laid on; numerous receptacles, chiefly barrels, were used for storing water and a large proportion of these were infected with stegomyia larvæ. As a result the *Stegomyia calopus* is the common house mosquito of Barbados and is still abundant, i. e., can be found in 11 per cent. of the houses. Sir Rubert thinks that it must be got rid of before the island can be considered secure. The water supply of the island is on the whole very good, but there are a few localities in which the stand-pipes are few and far between. Sir Rubert recommends increasing the supply as soon as possible. In the majority of the West Indian colonies it is now a punishable offense to harbor mosquito larvæ on the premises, but Barbados has lagged behind the other colonies.

Relation of Cancer to Chronic Inflammation

In the seventh report of the Cancer Research Laboratories of the Middlesex Hospital, Dr. Victor Bonney has published a most interesting investigation on this subject. Two views have been held as to the cellular infiltration always found in the connective tissue adjacent to primary carcinoma. One school holds that this inflammatory exudate is due to the irritant action of the carcinoma cells; the other that it is a phase of chronic inflammation which paves the way for the malignant proliferation. Dr. Bonney finds in pre-cancerous conditions, such as leucoplakia of the tongue or vulva, the same infiltration of the connective tissue. It is characterized by infiltration of the sub-epithelial connective tissue by lymphocytes and plasma cells in abundance and destruction of the normal elastic tissue. Into the de-elasticized and cellular layer descend the epithelial downgrowths which show the commencement of malignancy. Thus the changes in the sub-epithelial tissues are precedent to, and not a consequence of malignancy.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 15, 1909.

Epidemic of Typhoid Fever at Saint Brieuc

Since June 12 there has been at Saint Brieuc, capitol of the Department of the Cotes-du-Nord, on the English Channel, an epidemic of typhoid fever, which is now at its maximum. There are in the hospital 263 patients (99 soldiers) and 272 being cared for at their homes. An official complaint has been lodged against the civil physicians for not having made the required obligatory declaration of the presence of the disease. Only six declarations had been made when there were hundreds of cases in the city. After a careful official investigation it appears that, during the first ten or twelve days of the epidemic, the declarations were not made by the physicians, not on account of unwillingness, but on account of uncertainty of diagnosis. The mayor called the physicians together in the town hall on June 20, but opinions were contradictory. Some suggested grip, others dengue, others cerebrospinal meningitis, others gastric disease. The hypothesis of typhoid fever was rejected. It was only on June 25 that Dr. Vaillard, inspector general of the service of military health, confirmed the diagnosis of Dr. Térot, physician of the medical hospital, who had recognized typhoid fever. The epidemic appears to be due to the pollution of one of the springs which supply drinking water; an abundant rain fall had washed down fecal matter from rubbish-heaps and carried the bacilli into the valley in which the spring arises. The epidemic is confined to Saint Brieuc and no new case has been declared on the Breton coast.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, July 14, 1909.

Mortality in German Navy

The death rate in our navy has diminished from year to year; in 1904-5 the mortality was 2.8 per thousand; on the other hand, at the same time the death rate in the British navy was 3.9, in the American 6.48, in the Austrian 3.2. In 1906-7 it was only 2.36 per thousand; of 45,776 sailors only 108 died; 60 from disease, 25 by accident and 23 by suicide.

The Nutrition of School Children

At a recent conference of the central committee of the charities association (*Zentralstelle für Volkswohlfahrt*) Professor Rubner, at present our professor of physiology (formerly of hygiene), delivered a very interesting address on the nutritive condition of the children in public schools. The importance which a sufficient nutrition of public school children has for the further sanitary development of a large part of our population is evident. Rubner very properly claims that the lack in the nutrition of the pupils gives at the same time an insight into the defects in nutrition of the entire people and the effort to remove it involves as an essential factor the improvement of the entire popular dietary.

From an investigation by the central committee it is established that in winter as well as in summer from 0.6 to 1 per cent. of the children of the public schools come to school without any breakfast and 3.5 per cent. in spite of the numerous arrangements for feeding children receive at noon only a scanty cold lunch. A part of the children get a warm meal at least in the evening, but tens of thousands get nothing warm to eat either at noon or at evening and many thousands must go to bed hungry. Arrangements for feeding poor school children have been made by several charitable bodies, but many of these provide simply places where the children may eat without considering that in families whose parents are engaged in industry, the children are not looked after during the period of the day's work but are on the streets and so are exposed to danger. Children's shelters with arrangements for meals are for this reason much more suitable as they accomplish more in the way of education. In these institutions for the most part, some contribution from

the parents is required; even in the English law for feeding school children the cooperation of the parents is pointed out as especially desirable. The activity of these shelters should not be limited simply to the months of school but should extend through the vacation.

The directions which Rubner gives for the proper nutrition of children of school age are as follows: Besides the three ordinary meals a second breakfast and an evening lunch should be provided. Milk is to be preferred; alcoholics should be unconditionally forbidden and the use of coffee and tea should be limited; breakfast and dinner should be warm meals, supper can be alternately warm and cold. For children of an average weight of 24 kg. (50 pounds) food having a nutritional value of 1,500 calories is sufficient, that is, about 64 gm. (2 ounces) of albumin, 50 gm. (1⅔ ounces) of fat and 185 gm. (6½ ounces) of carbohydrates should be given. Of this amount one-fifth should be taken with the first and second breakfasts, one-half at dinner and lunch and the rest at supper. The technical side of the feeding of school children should be further developed by a thorough elaboration of the data so far furnished by experience in feeding pupils, as to the cost, the rules for feeding, nutritional value, checking the results by weighing the children, etc.

For the improvement of the conditions of nutrition in the families of workmen having many children the following suggestions are made: 1. Contributions for education or for nourishment on the part of the community on the basis of a physiologically justified minimum standard of nutrition. 2. Increase of the sick benefit for the fathers of families to a full day's wages in money or provisions. 3. Introduction of family insurance in all local industrial and miners' benefit societies with uniform distribution of the burdens thus arising on all members of the societies and the employers of labor. 4. Establishment of organizations for home and childbed nursing on the part of the community and of the Krankenkassen with the assistance of the invalid insurance associations. 5. Establishment of diet kitchens by cities and private organizations. 6. A cheap distribution of provisions from the municipal markets to families with many children who need assistance. 7. Especial arrangements by the communes and insurance organizations for the care and prevention of undernutrition of children during lack of employment.

Death Certificates in Germany

Certifying to a death is not uniformly regulated in Germany. While in many states and cities interment of a corpse is only permitted when the death has been established and certified to by a physician, in other places this certification may be made by laymen appointed for the purpose and in many other places such a certification is not necessary. Professor Schwalbe in his *Deutsche medicinische Wochenschrift* has made a comprehensive report on the present status of the obligatory death certificate. In 1900 the German medical association (*Aerztetag*) passed a resolution that the obligatory death certificate was necessary in the interest of philanthropy and should be given only by physicians licensed in Germany. So far it has only been provided that in case of diseases dangerous to the community, such as leprosy, cholera, typhus, yellow fever, plague and smallpox the authorities in districts in which they are prevalent or which are threatened by them, may order that every corpse is to be submitted to an official inspection by a physician before permission for burial is given.

In Bavaria, Würtemberg, Saxony, Baden, Hesse, Saxe-Weimar, Brunswick, Saxe-Meiningen, Coberg-Gotha, Schaumburg-Lippe, Lübeck, Bremen, Hamburg a death certificate is obligatory, but is furnished by laymen as well as by physicians. In Prussia a medical death certificate is required by police ordinance in a number of large and middle size cities. In some districts the certification is also permitted to laymen. In most parts of the kingdom there exists no obligatory requirement.

In spite of the fact that the Prussian government has frequently urged the introduction of inspection after death and has referred to its importance its extension has been very slow. As the most important tasks of the postmortem inspection may be mentioned the determination of the question whether the death is real or apparent, the furnishing of the cause of death for statistical purposes, the discovery of infectious diseases and of crime. The difficulties of a general obligatory introduction of this measure are the cost, since the poorer people are not in position or willing to pay the physician for an inspection of the dead body and the country communities are very often not in position to carry it out on account of insufficient funds. The assistance of country communities by the resources of the state especially meets the opposition of the conservatives who in general are not inclined to devote much of the state funds to hygienic purposes and to give to physicians much liberty in the correction of sanitary abuses which naturally are much greater in the country than in the cities. Schwalbe calls attention in this connection to the characteristic circumstance that the imperial law for the control of animal pestilence was passed in 1880 and that applying to human epidemics not until 1900, twenty years later.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 11, 1909.

The Vacant Ophthalmology Professorship

The vacancy caused by the death of Dr. I. Schnabel, professor of ophthalmology, seems to create much difficulty. Sometimes a vacant seat at the faculty is left without an occupant for longer than a term, if negotiations have to be conducted with eminent men, who name their terms. But in this case the real reason of the long delay is a difference of opinion between the body of professors (*Professorencollegium*) and the ministry of education. The professors have recommended the appointment of Professor Hess, the director of the eye clinic at Würzburg, who has a high reputation. The ministry, however, is reluctant to call another man hailing from abroad, as there are several German professors already in Vienna. Medical and scientific circles are very anxious that such narrow-minded patriotism shall not overrule scientific and pedagogic requirements. Lately Austria has given a large number of scientists to Germany without arousing protest there, as in Germany only the achievements and scientific importance of the appointees are considered. On the other hand it has happened several times that a physician asked to take over a clinic here had to refuse on account of the unsatisfactory condition of the institute. We are fortunate if a man of the quality of Hess can be induced to take over the old clinic of Schnabel; which can not be compared with his Würzburg eye clinic as regards equipment. The students themselves want a competent teacher and have suffered by not having had a definite program of instruction during the last four months.

The Vienna Poliklinik

The last report for the Vienna Poliklinik, the only hospital in Vienna wholly supported by private contributions, has recently been published. The institute has a hospital with altogether 100 beds, but contains also out-patient departments for all branches of medicine; the number of beds is much too small. The professors and directors of the departments are mostly extraordinary professors of the Vienna University. The number of out-patients last year was 71,987, and the in-patients numbered 2,728. The average stay of patients in the hospital was twenty days. The number of larger operations performed was 1,191. In 1908 a large number of classes for students and postgraduate lectures in German, English and French were held. There were 490 students, among them 140 English and American physicians. The teaching staff of the Poliklinik has suffered severe loss by the deaths of Professor Spiegler (dermatology) and Frühwald (pediatrics). A movement has been initiated to collect funds necessary for the erection of a completely new and up-to-date hospital with another 120 beds, so that hereafter the Poliklinik will be in reality a first-class hospital.

The Cholera Danger

The new outbreak of cholera in Petersburg and Kief and the intimate relations, especially on the frontier, between our country and Russia (the main route from Europe to Russia runs through Austria) have caused the issue of stringent regulations to guard against cholera and a strict quarantine is now imposed on all persons arriving here from Russia. The epidemic has been raging in Russia ever since last year, but it had been kept out from Austria. All importation of leather goods, vegetables, clothes, grain has been stopped on the frontier. Special attention has to be paid to Russian visitors to Karlsbad and other health-resorts.

Clean Your Brakes.—Many a motorist who has complained that the brake linings of his car wear out quickly could prolong the usefulness of these linings by flushing out the brakes when he comes home from a run through the mud. It is impossible to keep grit from accumulating between the braking surfaces, and a little water used now and then will do much to giving you good brakes all the year around.—*The Cooperator.*

Pharmacology

The Harmful Effects of Acetanilid, Antipyrin, and Acetphenetidin

The United States Department of Agriculture Bulletin[1] No. 126, issued July 3, 1909, and which was commented on editorially last week, sets forth the results of an investigation conducted by the Bureau of Chemistry with regard to the harmful effects of acetanilid, antipyrin and acetphenetidin. During recent years the use of these remedies and preparations containing them by the people at large, without the supervision of the physician, has increased rapidly and investigation has shown that coincidently there has been a marked increase in the number of cases of poisoning reported, in the number of fatalities, and in the number of instances of habitual use.

Since the passage of the Food and Drugs Act, June 30, 1906, the attention of the Department of Agriculture has been directed to this subject, particularly in connection with the branding of drug products containing one or more of these agents, and an attempt has been made to obtain full and reliable data with regard to their poisonous qualities with the object of furnishing information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice.

The investigation was conducted along two lines: First, an inquiry addressed to medical practitioners in the United States with regard to their personal experience with these drugs; and, second, the study of the cases of poisoning recorded in medical literature. Nearly a thousand letters, each containing eighteen questions, were addressed by the department to physicians throughout the country, the object being to secure information which would represent as closely as possible the conditions existing among the people at large so far as the harmful effects of the drugs in question are concerned. Four hundred replies were received.

The information obtained with regard to the number of instances quoted in medical literature in which poisoning, death, or habitual use has been known to result from the administration of acetanilid, antipyrin, and acetphenetidin is set forth in Section A of the accompanying table. The information summarized in Section B is based on the data submitted by physicians. Granting that the 525 physicians who did not reply had no cases to report, the question may profitably be asked, if 925 physicians have observed 814 cases of poisoning by these drugs, 28 deaths which are attributed to their use, and 136 instances of habitual use, how many such cases have in all probability been observed by the 125,000 physicians scattered throughout the United States? The summary, C, includes both the number of cases recorded in medical literature and those reported by physicians.

The bulletin contains information with regard to dosage, the extent to which these drugs are employed by physicians, poisoning and habitual use, the nature of the ill effects produced, etc. It also contains references to the recorded cases of poisoning, together with a brief abstract of each case.

POISONING BY ACETANILID, ANTIPYRIN AND PHENACETIN

A.—Cases Recorded in Medical Literature

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	297	13	32
Antipyrin	488	10	...
Acetphenetidin	70	3	1
Total	855	26	33

B.—Data Submitted by Physicians

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	614	16	112
Antipyrin	105	5	7
Acetphenetidin	95	7	17
Total	814	28	136

C.—Total Number of Cases

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	911	29	144
Antipyrin	593	15	7
Acetphenetidin	165	10	18
Total	1,169	54	169

1. The Harmful Effects of Acetanilid, Antipyrin and Phenacetin, by L. F. Kebler, Ph.C., M.D., chief Division of Drugs, Bureau of Chemistry, with the collaboration of Drs. F. P. Morgan and Philip Rupp, assistant chemists.

Correspondence

The Need of a Section on Physical Forces in Medicine and Surgery

To the Editor:—The growth of specialism in medical study and practice is justly regarded as one of the most important elements in the recent progress of civilization, even though it be attended by certain disadvantages, which are more or less inherent. The Association, in its re-organized and vigorous life, has fully recognized the principle of this fact by the establishment of many sections. Yet, that all has not been done in this direction that should be done is evidenced by the present position at the annual meetings of the great subject of the use of the physical forces in medicine and surgery.

The member and visitor are confronted at these meetings by the singular fact that a large and flourishing exhibit of physical apparatus and instruments is presented to his view, under the auspices of the Association in its Commercial Exhibit, without opportunity to learn or discuss their value or relative merits in the scientific meetings of the body. Since he is already more or less interested in the subject, he buys apparatus, and, so far as the Association's opportunities to instruct him are concerned, proceeds to employ them according to directions of the salesmen, without that mutual interchange of information so valuable in a special line of work. The result, if not quackery, is a loss of interest in methods of possible value, and much misinformation.

The Association should lead in bringing these methods under scientific rules, and should offer opportunities for intelligent discussion of their problems by its thousands of members, both general practitioners and specialists, who employ them in their daily practice. The British Medical Association has such a section on "electrotherapeutics;" but this designation is unnecessarily narrow, as the work should include roentgenology, hydrotherapy, phototherapy, diagnostic illumination, etc., as well as electrotherapeutics. The best title would probably be that of "Section on the Physical Forces in Medicine and Surgery."

Such a section can be established by the granting of a petition to that effect by the House of Delegates at St. Louis, and I believe that the petition will be granted if a sufficient number of members join in it. The Section on Obstetrics and Gynecology passed a favorable resolution at the Atlantic City meeting, but it was then too late for the matter to be taken up in the House of Delegates.

The purpose of this letter is to ask all members desirous of joining in the proceedings of such a section to write to me to that effect. The letter should state that the writer not only wishes to register in such a section, but will support it actively by attending its sessions. On its receipt by me the name will be added to the list of those desiring to join in this petition.

G. Betton Massey, Philadelphia.

1831 Chestnut Street.

International Medical Congress

To the Editor:—Just before sailing for Europe Dr. J. H. Musser, president of the American committee, received this communication from the general secretary of the Congress at Budapest:

Budapest, Hungary.

My Very Dear Sir:—Perhaps it might be unknown to you that there is in our town a statue to George Washington. It has been raised by our countrymen in the United States, a sign of gratitude to the country where they are enabled to derive their livelihood now.

The statue to George Washington is situated in a nice part of our town park, a place visited by every tourist. It might possibly be the case that your countrymen would like to visit the statue in a body and in a solemn way.

Should it be so, you would greatly oblige us by communicating us the decision of your countrymen, in order to make it possible for us to put the day and hour of this visit on the program of the Congress festivities, which are to be published in the first number of the *Congress Gazette.*

Emil Grosz, General Secretary.

Dr. Musser referred the letter to me with instructions to ascertain the wishes of those who will attend the Congress, and communicate the same to Dr. Grosz.

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I should be pleased to have any suggestions, either as to the time or the character of the ceremonies.

CHAS. WOOD FASSETT.

Hotel Ostend, Atlantic City, N. J.

[COMMENT.—The proposal of Dr. Grosz will doubtless lead to a very pleasant feature of the Congress for the visitors from the United States, of whom there seems to be a large number. Many of these have already sailed, but others will no doubt take up the request of Dr. Musser through Dr. Fassett. From another source we learn that Dr. John A. Witherspoon, Nashville, Tenn., who is on his way to Budapest, has been invited to deliver the address at the Washington statue ceremonies. It is stated that a number of the best hotels in Budapest have practically all their space engaged for the time of the Congress. Just before he sailed Dr. Musser sent word that he had received and distributed the certificates of membership from the Congress authorities to the physicians who had qualified in the United States. We understand that these certificates will secure to the holders reduced rates on the railroads in Europe. Further information can probably be had from the office of Dr. J. H. Musser, 1927 Chestnut street, Philadelphia, or from Dr. Fassett.—ED.]

Paper Napkins in Gynecologic Examinations

To the Editor:—In gynecologic examinations, cleanliness is of greater importance to the patient than exposure. Apropos of the article on the divided sheet by Dr. Curran Pope, published in THE JOURNAL, July 17, I beg to remark that the sheet when tucked about the speculum as suggested succeeds admirably in precluding exposure of the patient, but the procedure is insanitary and abets communicability of infection, unless a clean sheet is provided for each patient and it is doubtful if this is the intention. It is a well known fact that the table or chair of the general practitioner is supplied with a head-rest and sheet, for gynecologic examinations, and that the sheet may be in service too long before renewing; it is doubtful if an equal degree of carelessness is displayed in any other department of office work, in guarding against infection, as in gynecologic examinations.

The less complicated and bulky the sheet the greater the likelihood that proper attention will be directed to cleanliness. An ordinary sheet of printed material or muslin one yard wide and two yards long is sufficient to prevent exposure in any vaginal speculum examination. If, when any style of sheet is used, however, a white paper napkin, folded once to be triangular in shape, is made to encircle the speculum after it is introduced, exposure of the external genitalia is precluded. The sheet need not come in contact with the speculum or surface of the patient and can be used safely for subsequent examinations. A napkin, also, should be used for the pillow or head rest. They are 14 inches square, made of soft material, and are inexpensive.

CHARLES F. SPANGLER, M.D., Kane, Pa.

Localized Sweating

To the Editor:—*Apropos* of the paper by Drs. Wende and Busch on "Localized Facial Sweating, Following Certain Olfactory Stimuli," (THE JOURNAL, July 17, 1909, p. 207), I recently came across the following abstract in *Dental Cosmos*, 1906, xlviii, p. 249: Darguies (*Rev. de Stomatol.*, Paris, 1905) reports the case of a woman, aged 39, in whom movements of mastication stimulated the sweat glands in the sternomastoid and infraorbital regions, regardless of season and ceasing at the end of the meal, sometimes being so intense as seriously to interfere with the patient's comfort. Another case has been reported, that of a French army officer in whom the sweating was localized in the right parotid region; this was traced to a blow on the mandibular angle of the same side.

This abstract attracted my attention from the fact that I have frequently noticed, in my own case, a curious hyperidrosis, infraorbital and extending over the malar prominence, on eating apples. I have mentioned the fact to a number of professional friends, none of whom, however, had ever met with a similar experience.

MURRAY GALT MOTTER, Washington, D. C.

Book Notices

A MANUAL OF OPERATIVE SURGERY. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., Consulting Surgeon to the London Hospital, and Jonathan Hutchinson, F.R.C.S., Surgeon to and Lecturer on Surgery at the London Hospital. Edition 3, in Two Volumes. Vol. 1, Half Morocco. Pp. 775, with 193 engravings and 17 full-page plates. Price, $6.50. Philadelphia: Lea & Febiger, 1909.

The present edition has been completely rewritten by Jonathan Hutchinson and reflects great credit not only on the editor but on the author. Besides the revision of the text, the illustrations have been gone over carefully and many new ones added. A commendable feature in the present edition is the grouping in one chapter of all the operations on the abdomen, including gynecologic, genitourinary and hernia operations.

COMMERCIAL LAW SIMPLIFIED. By Charles C. Simons, of the Detroit Bar. Leather. Pp. 510. Price, $5. Detroit: The Business Man's Publishing Co.

If, as is sometimes stated, physicians are notoriously poor business men, then this work should prove of value to the medical profession. The book is written in non-technical language, the author stating that it is "not for lawyers and does not presuppose on the part of the reader any knowledge of the law or of legal terminology." The work is compiled in question and answer form and contains a particularly complete index. It is well printed and bound in the regulation law sheep binding.

GONORRHEA IN WOMEN. By Palmer Findley, M.D., Professor of Gynecology in College of Medicine of University of Nebraska, Omaha. Cloth. Pp. 112. Price, $2.00. St. Louis: C. V. Mosby Medical Book Co., 1908.

Dr. Findley states in the preface that this monograph is published in the hope of awakening physicians to a greater realization of the supreme importance of the subject of gonorrhea in women. The book commences with a historical sketch of the subject, in which Dr. Findley states that the Jews had a fairly accurate knowledge of the disease, as shown by biblical history; and he goes on to trace the disease through history down to the present time. He then takes up etiology, pathology, course of the infection, methods of diagnosis of gonorrhea in the various parts of the genitourinary tract, the frequency of this disease in women, the relation of gonorrhea to social economy, the various methods of prophylaxis and treatment, and then takes up the systemic gonorrheal infections, including gonorrheal septicemia and pyemia, endocarditis and arthritis. The book ends with a comprehensive bibliography.

DIETETICS FOR NURSES. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore, and John Rurah, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Edition 2. Cloth. Pp. 395. Price, $1.50. Philadelphia: W. B. Saunders Co., 1909.

This edition differs little from the first one. The article on milk has been rewritten and a chapter has been added on simple methods of detection of food adulterations and preservatives. The recipes are good and practical.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DOMESTIC FOWLS AND TUBERCULOSIS

To the Editor:—Kindly answer the following questions: 1. Has it been proved that barn-yard fowls fed on human tuberculous sputum become tuberculous? 2. Is the tubercle bacillus found in the eggs of such fowls and, if so, is it pathogenic for man? 3. Is the avian tubercle bacillus pathogenic for man?

X.

ANSWER.—According to recent researches (Weber and Bofinger, Tuberkulosarbeiten a. d. kais. Ges. Am., 1904), the results of which harmonize with most of the earlier conclusions, fowls are not susceptible to infection by tubercle bacilli of the human and bovine types. They are however, readily susceptible to tubercle bacilli of the avian type which are readily distinguished from human and bovine types. Rabbits and mice are susceptible to infection by

avian bacilli and spontaneous infections with this bacillus have been observed in white and gray mice and rats, and it is believed that these animals may play an important rôle in the distribution of avian tuberculosis. As a rule the avian bacilli have little effect when introduced into the bodies of guinea-pigs; when large numbers are introduced the animals may die from intoxication but without the development of a genuine tuberculosis. Avian bacilli have also been found in the caseous mesenteric lymph nodes of a three months' old pig. Recent efforts to convert avian bacilli into human or bovine bacilli have failed; in Weber and Bofinger's experiments the avian bacilli retained their original characteristics after having sojourned for two years in the bodies of susceptible mammals.

In view of what has been stated it would seem then that barnyard fowls fed on human tuberculous sputum do not acquire tuberculosis, neither do there seem to be any cases on record of the tubercle bacillus having been found in their eggs. While it is true that one or two instances have been recorded in which avian tubercle bacilli have been found in the human body, yet there is, so far as we know, no evidence that really warrants the conclusion that it is pathogenic for man.

DETECTION OF TUBERCLE BACILLI IN THE BLOOD

To the Editor:—In the answer to the query regarding Rosenberger's method of detecting tubercle bacilli in the blood (THE JOURNAL, July 10, 1909, p. 132) it is stated that he works with 5 c.c. (80 m.) of blood. Please advise me of Rosenberger's method of obtaining such a large quantity of blood.

T. W. CAUSEY, M.D., Jesup, Ga.

ANSWER.—Dr. Rosenberger secures the blood by puncture and aspiration with a hypodermatic syringe.

TREATMENT OF TRICHINOSIS

To the Editor:—Please give the treatment for trichinosis after the parasite has invaded the muscles. X. Y. Z.

ANSWER.—The treatment is entirely symptomatic: Warm baths and local soothing applications are indicated. Sulphonethylmethanum may be given to promote sleep and in some cases morphin is necessary to relieve pain. Tonics and stimulants may be required later to overcome anemia and emaciation; passive motion and massage will assist in restoring the function of the muscles.

CUMULATIVE EFFECTS OF SUPRARENAL EXTRACT

To the Editor:—What cumulative action is exerted by suprarenal extract? J. RODMAN, Dallas, Tex.

ANSWER.—"Cumulative action" is a somewhat indefinite term. In the sense in which it is ordinarily used, viz., when moderate doses are employed at reasonable intervals for a limited time, there is no evidence that suprarenal extract produces cumulative effects except the arterial degeneration which has been observed after repeated injections in animals. The effect of suprarenal extract or adrenalin on the blood pressure disappears very quickly and it is not probable that cumulative action can be caused by repeated administration. Given by the mouth it does not affect the blood pressure. The dose is from 3 to 5 grains of the dried gland.

The Public Service

Medical Corps of the Navy

Changes for the week ended July 24, 1909:

D. G. Allen, asst.-surgeon, detached from the *Chattanooga* and ordered to the Naval Hospital, Canacao, P. I.

Medical Department of the Army

Memorandum of changes of stations and duties of medical officers for the week ended July 24, 1909:

Morris, Samuel J., capt., ordered to Washington Barracks, D. C., for temporary duty.

Maus, Louis M., col., ordered to St. Paul, Minn., for duty as Chief Surgeon, Department of Dakota.

Gibner, Herbert C., capt., granted leave of absence for twenty days.

Davis, William R., capt., granted leave of absence for twenty days.

Ekwurzel, George M.; Buck, Carroll D.; O'Connor, Roderic P.; Heard, George P.; Brooke, Roger, Jr., capts., ordered to report at Manila, P. I., for examination for promotion.

Usher, Francis M. C., major, granted leave of absence for one month.

Ashford, Mahlon; Huber, Edward G.; Bayly, Rozier C.; Leary, Thomas F.; Kerr, Robert W.; Shields, William S., 1st lieuts., relieved from their present duties in time to proceed to San Francisco and sail Sept. 5 for Philippine service.

Waterhouse, Samuel M., major; Lyster, William J. L., major; Murtagh, John A., capt.; Davidson, Wilson T., capt., relieved from duty in the Philippine division; will sail Oct. 15 from Manila, P. I., for San Francisco.

Dean, Elmer A., major, granted leave of absence for ten days.

Hutton, Paul C., capt., ordered to report at Washington, D. C., for examination for promotion.

Harris, Henry S. T., lieut.-col., relieved from duty at Fort Leavenworth, Kan., and ordered to San Francisco for duty as chief surgeon, Department of California.

Edger, Benjamin J., Jr., major, ordered to Fort Meade, S. Dak., for duty.

Robbins, Chandler P., major, ordered to Fort Terry, N. Y., for duty.

Van Kirk, Harry H., 1st lieut., M. R. C., granted leave of absence for fifteen days.

Fisk, Owen C., 1st lieut., M. R. C., ordered to Fort Hamilton, N. Y., for temporary duty.

Betts, Charles A., 1st lieut., M. R. C., relieved from duty at Fort Lawton, Wash., and ordered to San Francisco, to sail Sept. 5 for Philippine service.

McLeod, Harlow C., 1st lieut., M. R. C., honorably discharged from the service of the United States, his services being no longer required.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 23, 1909:

SMALLPOX—UNITED STATES

Georgia: Macon, July 4-11, 2 cases.
Indiana: Fort Wayne, June 26-July 3, 1 case.
Kentucky: Lexington, July 3-10, 2 cases; Newport, 1 case.
Louisiana: New Orleans, July 3-10, 2 cases.
Michigan: Grand Rapids, June 5-12, 1 case; Kalamazoo, July 3-10, 1 case.
Minnesota: Duluth, July 2-9, 5 cases.
Montana: Butte, June 24-July 1, 5 cases.
Oregon: Portland, May 1-31, 9 cases.
Texas: Fort Worth, June 1-30, 4 cases.
Washington: Spokane, June 26-July 3, 1 case.
Wisconsin: La Crosse, July 3-10, 1 case.

SMALLPOX—FOREIGN

Brazil: Bahia, May 21-June 4, 4 cases, 1 death; Rio de Janeiro, May 23-June 12, 22 cases, 12 deaths.
Canada: Halifax, June 26-July 3, 1 case.
Egypt: Cairo, June 3-10, 2 cases, 5 deaths.
France: Paris, June 19-26, 4 cases.
Great Britain: Liverpool, June 19-26, 2 cases, imported.
India: General, May 28-June 5, 1,986 cases, 1,698 deaths; Bombay, June 8-15, 10 deaths; Calcutta, May 29-June 5, 18 deaths; Madras, June 5-11, 4 deaths; Rangoon, May 29-June 5, 1 death.
Indo-China: Saigon, May 22-29, 1 case, one death.
Italy: June 20-27, 20 cases, 3 deaths.
Mexico: Monterey, June 27-July 1, 9 deaths.
Portugal: Lisbon, June 26-July 3, 7 cases.
Russia: Riga, June 26-July 3, 6 cases; St. Petersburg, June 5-12, 23 cases, 6 deaths.
Siberia: Vladivostock, May 21-28, 1 case.
Spain: Barcelona, June 21-28, 5 deaths.
Straits Settlements: Singapore, May 15-22, 1 case.
Switzerland: Geneva Canton, June 5-12, 1 case.
Tripoli: Tripoli, May 22-June 19, 30 cases, 10 deaths.

YELLOW FEVER

Brazil: Bahia, May 2-June 18, 7 deaths; Manaos, June 12-19, 2 deaths.
Ecuador: Guayaquil, May 28-June 12, 6 deaths.

CHOLERA

India: Bombay, June 8-15, 22 deaths; Calcutta, May 29-June 5, 61 deaths.
Indo-China: Saigon, May 22-29, 3 cases, 2 deaths.
Russia: Archangel, June 26-July 1, 10 cases, 4 deaths; Chmalysk, June 25, 1 case; Cronstadt, June 28-30, 5 cases, 1 death; Estland, 1 case; Pleskov, July 1, 1 death; Riga, 1 case; St. Petersburg, June 25-July 1, 11,581 cases, 203 deaths; St. Petersburg, government, June 25-26, 36 cases, 12 deaths.
Straits Settlements: Singapore, May 15-22, 1 death.

PLAGUE

Brazil: Bahia, May 21-June 4, 4 cases, 3 deaths; Rio de Janeiro, May 23-30, 1 case.
Ohio: Canton, May 22-June 5, 90 cases, 70 deaths.
Ecuador: Guayaquil, May 28-June 12, 8 deaths.
Egypt: June 10-July 1, 81 cases, 25 deaths; Alexandria, June 17, 1 case, 1 death; Port Said, June 15-17, 2 cases, 2 deaths.
India: Bombay, June 8-15, 35 deaths; Calcutta, May 28-June 5, 77 deaths; Rangoon, 16 deaths.
Indo-China: Saigon, May 22-29, 1 case, 1 death.
Japan: Tokyo: June 22, 2 cases; Yokahama, June 12-19, 2 cases.
Venezuela: Caracas, June 22, 1 case; June 28, 2 cases.

Marriages

FLETCHER L. BROWN, M.D., Whiteville, N. C., to Miss Maude Phifer of Morganton, N. C., at Spartanburg, S. C., July 15.

HOWARD CAMERON, M.D., Sacramento, Cal., to Miss Alice M. George of Sparks, Nev., at Elk Grove, Cal., July 14.

HUMPHREY B. WILLIAMS, M.D., Honea Path, S. C., to Miss Jennie Williams of Nashville, Tenn., recently.

T. RICHARD PAGANELLI, M.D., Hoboken, N. J., to Miss Grace Beatrice Reardon of Jersey City, April 19.

JOHN H. HOLLIHAN, M.D., New Bedford, Mass., to Miss Edna H. LeFevre, at Govanstown, Md., July 6.

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THURSTON GILMAN LUSK, M.D., to Miss Clementine Tetedoux, both of New York City, July 17.

CHARLOTTE DODD STEWARTSON, M.D., and J. Brodie Smith, both of Manchester, N. H., July 14.

JOHN B. BARTRAM, M.D., Ashland, Ky., to Miss Lillian Maurer of Covington, Ky., July 11.

SPURGEON FLOYD PRIESTLEY, M.D., to Miss Sophie C. Hausen, both of Stockton, Cal., July 13.

JAMES HENRY TURNER, M.D., to Miss Bessie Helen Shute, both of Salida, Colo., June 24.

WENZEL CARL GAYLER, M.D., to Miss Rosaline Klipstein, both of St. Louis, June 29.

JOHN F. HAWKINS, M.D., to Miss Lydia Roessler, both of Baltimore, Md., June 30.

MARTIN J. HANNA, M.D., Baltimore, Md., to Miss Sarah S. Rust, at Baltimore, July 7.

ORMAND E. HUTCHINS, M.D., to Miss Gene J. Fairfax, both of Warsaw, Ill., July 7.

CARL V. COLE, M.D., to Miss Anna Seely, both of Lake City, Minn., July 14.

Deaths

Joseph Robbins, M.D. Jefferson Medical College, Philadelphia, 1861; a member and officer of the Illinois State Medical Society; once president of the Adams County Medical Society a member of the Tri-State Medical Society; for several years a member of the Quincy Board of Education; from 1901 to 1902 superintendent of the Jacksonville (Ill.) State Hospital; physician and consulting surgeon to Blessing Hospital, Quincy; and president of the medical staff; formerly president of the Quincy Medical Library Association; died in Blessing Hospital, July 19, from cancer, aged 74.

Edwin Holmes Van Deusen, M.D. College of Physicians and Surgeons, New York City, 1851; of Kalamazoo, Mich.; a member of the Michigan State Medical Society; first assistant physician at the New York State Lunatic Asylum, Utica, from 1853 to 1858; superintendent of the Michigan Asylum for the Insane, Kalamazoo from 1859 to 1878; who gave to Kalamazoo its public library; a great benefactor to his city; died at the Interpines Sanitarium, Goshen, N. Y., July 6, aged 79.

Charles Henry Voigt, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the American Medical Association; surgeon for the Allegheny General Hospital since its opening; physician and surgeon to the Wilkinsburg Hospital; died at his home in Allegheny, Pa., July 10, from septicemia due to an operation wound, aged 59.

J. R. Marmaduke Dillon, M.D. Tulane University, New Orleans, 1895; of New Orleans; a member of the American Medical Association; formerly assistant surgeon, U. S. Navy; and house surgeon at the Illinois Central Railroad Hospital, Paducah, Ky.; died suddenly in St. Louis, July 4, from heat prostration, aged 35.

Arthur Earl Beach, M.D. Northwestern University Medical School, Chicago, 1905; a member of the American Medical Association; was found dead in his office in Carroll, Iowa, July 13, from the effects of chloroform, self-administered, with suicidal intent, while despondent on account of ill-health, aged 34.

Jacob B. Casebeer, M.D. Bellevue Hospital Medical College, New York City, 1866; formerly a member of the American Medical Association; a member of the DeKalb County (Ind.) board of U. S. Pension Examining Surgeons, died at his home in Auburn, July 13, from carcinoma of the liver, aged 70.

George Marshall Fox, M.D. Castleton (Vt.) Medical College, 1851; once president of the board of trustees of La Grange, Ill.; from 1864 to 1866, physician of Cook County; died at his home in La Grange, July 14, aged 80.

Junius H. Wattles, Jr., M.D. University Medical College, Kansas City, 1900; of Kansas City, Mo.; formerly president of the Western Veterinary College, Kansas City; died in San Marcos, Texas, June 27, aged 30.

Robert S. Chrisman, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the staff of Pottsville (Pa.) Hospital since its foundation; died at his home July 9, from general debility, aged 67.

Patrick Joseph L. Carberry, M.D. Jefferson Medical College, Philadelphia, 1874; owner of the Hotel Rossmore, Atlantic City, N. J.; died in the Atlantic City Hospital, July 9, from nephritis, aged 60.

Thomas J. Wooldridge, M.D. Medical College of Virginia, Richmond, 1851; a practitioner of Hanover county, Va., for 52 years; died at his home in Richmond, March 5, from senile debility, aged 79.

Samuel Millington, M.D. Eclectic Medical College of the City of New York, 1869; for 47 years a practitioner of Rome, N. Y.; a veteran of the Civil War;; died at his home in Rome, July 13, aged 73.

William I. Edwards, M.D. St. Louis Medical College, 1872; a specialist on diseases of the eye, ear, nose and throat of Nashville, Tenn.; died at his home in that city, July 9, aged 61.

William E. Moore, M.D. College of Physicians and Surgeons, Baltimore, 1881; formerly of Derby, Iowa; died suddenly at his office in Lincoln, Neb., July 8, from endocarditis, aged 57.

M. Augustus Withers, M.D. University of Pennsylvania, Philadelphia, 1852; surgeon in the Army during the Civil War; died at his home in Pottstown, Pa., July 2, aged 79.

William J. Wagner, M.D. John A. Creighton Medical College, Omaha, 1908; died at his home in Hulett, Wyo., July 2, from the effects of accidental poisoning by strychnin, aged 26.

J. Lyman Bulkley, M.D. Albany (N. Y.) Medical College, 1874; of Richmond Hill, Borough of Queens, N. Y.; died at his old home in Sandy Creek, N. Y., July 9, aged 75.

Otis E. Youngquist, M.D. Rush Medical College, Chicago, 1892; a member of the Michigan State Medical Society; died at his home in Escanaba, July 11, aged 40.

Elizabeth Grabe, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1884; died at her home in South Beatrice, Neb., July 10, aged 47.

Edward D. Scott, M.D. Howard University, Washington, D.C., 1895; died at his home in Washington, July 8, from paralysis, aged 52.

William Gregg Ratcliffe, M.D. Toronto School of Medicine, 1899; died at his home in St. Catherines, Ont., July 12, from typhoid fever.

John Wesley Lynn, M.D. University of Georgia, Augusta, 1859; died at his home in Carbon Hill, Ala., June 26.

John B. Huff (license, Ky., 35 years of practice, 1893), died at his home near Herbert, Ky., July 8, aged 73.

John K. Seawell, M.D. Atlanta (Ga.) Medical College, 1861; died at his home in Erastus, Ga., July 7.

Miscellany

Sociology and Medicine

The Conference of Charities and Corrections which held its session at Buffalo, N. Y., recently, was of great interest because of the number of its problems which are so closely linked with those confronting the medical profession —problems in which the physician, nurse, social worker and the philanthropist work jointly for common good. Papers of importance were read bearing on the medical side of sociologic problems, such a paper for instance as "The Health of Immigrants, A Study of Typhoid in Pittsburg," by Douglas C. McMutrie of Pittsburg, in which he stated that there is a perfect ratio in the prevalence of typhoid fever and the increase in immigration. So soon as immigration increases typhoid fever becomes more prevalent. This is due to various reasons, some of which are the lowered resistance of the immigrant, the ignorance on their part in sanitary measures, their indifference to health regulations, possibly due to the fact of their ignorance in reading, their segregation in the slums of large cities, overcrowding and the very poor condition of the water supplies in most large cities. The Rev. Dr. W. S. Friedman of Denver presented an urgent and timely plea against sending consumptives in the last stages to the West. He declared that it was an injustice to the West and a cruelty to the patient. He declared that to send such patients to the West was "sentimentalism run wild, philanthropy perverted, medical malpractice." Every humanitarian impulse urges such patients to remain at home. Their last chance, as hoped for by their friends, becomes their lost chance. The sudden change from sea level to a highland, rarified atmosphere, and the wearing hardships of travel aggravate complications and hasten death.

What the slums of our great cities cost in human lives was graphically brought out by Paul Kellog, director of the Pittsburg Survey, the most detailed investigations ever made into social conditions in any city in the world. Dr. John H. Fulton, of Washington, D. C., presided at a subdivision which came into existence at this meeting, namely a section on social service departments in hospitals and dispensaries. Many physicians, nurses and social workers interested in this newest line of philanthropy met and a committee of three was appointed to draw up a plan of organization. Scores of cases were cited in which improvement in the social conditions and the home surroundings of a hospital patient resulted in his recovery. The social service department also cares for convalescents and aids the diagnostician by seeing that ignorant outside patients get proper treatment and medicine and take them properly.

William Jay Schieffelin of New York, in a paper on "Means of Safeguarding the Sale of Narcotics, Especially Cocain, Opium, Morphin," said: "The requirement of the national Food and Drugs Act that patent medicines must bear on their label the proportion of habit-forming drugs has gone far toward preventing people from ignorantly becoming the victims of the drug habit. There remains now the problem of restricting the sale of habit-forming drugs, especially cocain, to their uses. Cocain is so valuable in surgery that to prohibit its use would cause much suffering. On the other hand at least half of the cocain consumed in this country is used by the victims of the habit. Most of these unfortunates live in questionable districts. . . . The New York commissioners of police have reported that they have already found sixty drug stores that show excessive sales and that the druggists conceal their source of supply by importing from abroad. . . . The suggested remedy is a prohibitive tariff to keep out foreign cocain and an internal revenue tax and license to regulate the cocain made and sold in America. If these measures are adopted the sale of cocain in the United States will be cut in half; the drug habitués will be driven to secure smuggled cocain, which can be identified by the absence of the revenue stamp and the name of the American maker; the abuse of the drug will be checked and the hands of the druggist will be clean."

Dr. H. W. Wiley, in a paper dealing with the subject of foods furnished in public institutions said: "In a recent investigation by the Department of Agriculture, made for the purpose of ascertaining the character of food supplied the inmates of a number of hospitals, asylums for orphans and the insane, almshouses, schools for the blind, deaf and dumb, soldiers' homes, workhouses and prisons, it was found that as a general thing the fare at these institutions is of the plainest kind consistent with necessary food value, and the supplies are generally purchased by the governing bodies, on contract, and with a decided leaning toward economy. As a part of our investigation a number of samples of foods were selected for technical examination. Some of these were found to be very deficient in character, as for illustration—of the total number of coffee samples analyzed, 17 per cent. were found to be of good quality and true to name; the remaining 83 per cent. all contained a varying proportion of immature and dead beans which ranged from 6 per cent. to 29 per cent., and some of the samples contained other impurities such as stems and mineral matter. It is something more than a coincidence that all of the impure samples had been glazed. A sample of dried peas contained weevils and other small insects. One sample of gelatin used in a hospital developed an offensive animal odor on moistening. The dry substance was dusted with wheat starch. A sample of tea, very low grade, was composed of old leaves and contained 13 per cent. of stems. In the case of one institution, we have knowledge that a contractor supplied a lot of over 1,000 pounds of coffee which had been stored near raw hides, and was filthy and utterly unfit for food. A vigilant inspection halted this product before it entered into consumption. At one almshouse we found one grade of coffee supplied to the attendants and a much lower grade to the inmates, as was also the case with butter. From the foregoing, it is perfectly clear that some system of supervision of the dietaries of institutions needs to be developed."

C. F. Langworthy stated that public institutions should have nutrition experts just as public institutions have expert accountants. He objected strenuously to the fixed bill of fares for certain days in each week which is used in so many of the charitable institutions.

The diet of tuberculous patients was discussed by Dr. H. M. King of the Loomis Sanatorium, Liberty, N. Y. He stated that the diet depends on the sex (the male requiring more than the female); the age (the old requiring less than in adult life, 30 years being the age of maximum diet); occupation (laborers requiring for instance more than those of sedentary habits), and that city dwellers require more proteid diet. He does not believe in hyperalimentation in tuberculosis for the reason that in such cases you get digestive disturbances and intestinal toxemia. He said that in tuberculosis a person loses flesh not so much because he is starved as because there is a toxic condition resulting from the disease.

Roy Smith Wallace of New York, spoke on the "Responsibilities and Opportunities of a Health Officer." After showing how great, how important and how vital to the community was the health department of a great city, Mr. Wallace proceeded to criticize what he described as shortcomings of most public health departments. "The work is handicapped by lack of funds and lack of men—capable men who can do more than the perfunctory, routine work of the department; men who are alive to their tremendous opportunities. The trouble is that most health officers are political appointees; they are spoilsmen looking for plums. This is why few men look on the position as an honor to be sought and won by merit. Only by the rarest chance is there a man appointed that lends distinction to the office and even in these instances his subordinates are political appointees. The public health is too vital a matter to be trusted to spoilsmen."

"Milk for Babies" was the subject of a stereopticon lecture delivered by Dr. George W. Goler, superintendent of the department of public health of Rochester, N. Y. Dr. Goler told of the experiment at Rochester of the Municipal Dairy Farm where the milk is obtained under sanitary conditions at a small cost and then delivered to Rochester where the health department maintains milk supply stations in charge of trained nurses and where the mothers from the tenements obtain clean wholesome milk and are taught the proper dietary and care of the infant. By this method Rochester has reduced its mortality of children under one year by one-half as compared with the mortality record of the preceding decade, and it certainly demonstrates that it is a line of endeavor which is certainly worth while.

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Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 3. Sec., Dr. Charles L. Tisdale, Butler Bldg.
GEORGIA: Regular, Capitol Bldg., Atlanta, August 3-4. Sec., Dr. E. R. Anthony, Griffin.

College Merger at Nashville

Word has been received from Dr. Hilliard Wood of Nashville that the University of Tennessee Department of Medicine has united with the University of Nashville Medical Department, the new school thus formed to be known as the Medical Department of the Universities of Nashville and Tennessee. The faculty already selected numbers forty-four. Better equipped laboratories and improved methods of laboratory teaching are contemplated. Additional hospital facilities are already being provided for. It is announced that the new school will be operated according to the requirements of the Association of American Medical Colleges.

Nebraska February and May Reports

We are informed that the Nebraska examination report published in THE JOURNAL, July 17, 1909, was for the ex-

amination held February 3-4, 1909, instead of May 25-27, 1909. The following is the report for the examination held at Lincoln, May 25-27, 1909, furnished by the Secretary, Dr. E. J. C. Sward. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 63, of whom 60 passed and 3 failed. Eleven reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1908)	85.8
University of Maryland	(1909)	88.
Hamline University	(1907)	78.7
University of Missouri	(1909)	85.
University Medical College, Kansas City	(1897)	85.
Ensworth Medical College	(1909) 77.5, 78.5, 80, 80.	
University of Nebraska, (1909) 77.8, 81.7, 84.1, 84.2, 85.4, 86.5, 86.8, 87.4, 90.7.		
Nebraska College of Medicine, (1909) 80.6, 81, 81.6, 82, 82.6, 82.7, 83.8, 85.2, 88.		
Lincoln Medical College, (1909) 80.5, 84.7, 85, 85.5, 85.7, 86.5, 86.6, 89.		
Creighton Medical College, (1908) 80.5; (1909) 75, 75.7, 77.6, 78.1, 78.6, 79.2, 79.8, 80.1, 80.1, 81.7, 82.2, 82.2, 82.6, 82.7, 83, 83.5, 83.7, 85, 85.7, 88.4, 88.6, 88.8, 89, 90.		

FAILED

College	Year Grad.	Per Cent.
College of Phys. and Surg., Chicago	(1897) 74.5; (1901)	68.8
Ensworth Medical College	(1909)	68.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School, (1907)	(1907)	Iowa; (1907) Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
Jenner Medical College	(1908)	Illinois
Rush Medical College	(1894)	Iowa
Barnes Medical College	(1908) Oklahoma;	Iowa
Marion Sims College of Medicine	(1898)	Iowa
Ensworth Medical College	(1908)	Kansas
Eclectic Medical Institute, Cincinnati	(1909)	Kansas

Minnesota June Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at Minneapolis, June 15-18, 1909. Aside from the written examination, practical tests were given in pathology, bacteriology, histology and urinalysis. The number of subjects examined in was 12; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 77, of whom 59 passed and 18 failed. Eleven reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern Univ. Medical School	(1909) 75.1, 76.2, 78.6, 81.2	
Harvard Medical School	(1907) 80.6; (1909)	83.8
University of Minnesota, College of Medicine, (1909) 75.3, 76.9, 77.9, 77.9, 78.1, 79.1, 79.2, 79.2, 79.3, 79.7, 79.8, 80, 80.7, 81.3, 81.3, 81.5, 81.7, 81.9, 82.1, 82.5, 82.7, 82.7, 83, 83.6, 83.9, 84.5, 84.7, 84.9, 85.1, 85.2, 86.9, 87, 87.2, 89.6.		
University of Minnesota, Homeopathic Department	(1907)	78.1
Hamline University, (1908) 77.3; (1909) 75, 75.4, 77.2, 78.4, 78.7, 79.7, 81.9, 84.1, 86.4.		
Creighton Medical College	(1908)	82.2
Columbia University, College of Phys. and Surg.	(1909)	81.5
Hahnemann Medical College and Hospital, Philada.	(1909)	84.2
Jefferson Medical College	(1909) 76.1, 76.7, 79.1, 79.7	
University of Toronto, Ontario	(1906)	83.4

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1890)	68.6
Northwestern Univ. Med. School	(1908) 72.6; (1909)	71.3
University of Minnesota	(1909) 73.8, 74, 74.2	
Hamline University, (1907) 66.8, 70.4; (1909) 68.9, 69.9, 70.6, 73.1, 73.7.		
Barnes Medical College	(1909)	69.8
St. Louis University	(1909)	67.7
Jefferson Medical College	(1909) 65.4, 65.8, 73.1	

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1905) (1908)	Wisconsin; Illinois
Drake University	(1907)	Iowa
University of Iowa	(1904) (1908)	Iowa
University of Minnesota	(1904) Wisconsin; (1905)	N. Dakota
Columbia University, College of Phys. and Surg.	(1895)	Wisconsin
Miami Medical College	(1906)	Michigan
Medico-Chirurgical College, Philadelphia	(1907)	New Jersey
Creighton Medical College	(1909)	Nebraska

Louisiana May Report

Dr. Felix A. LaRue, secretary of the Louisiana State Board o. Medical Examiners, reports the written examination held at New Orleans, May 20-21, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 130, of whom 99 passed and 31 failed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1908) 78.; (1909)	82.4
College of Physicians and Surgeons, Little Rock	(1909)	76.2
Kentucky School of Medicine	(1908)	78.6
Kentucky University	(1904)	84.8
Louisville Medical College, (1898) 78.4; (1905) 77.2; (1907) 76.6		
Louisville and Hospital Medical College	(1908)	75.2
Tulane University of Louisiana, (1884) 86.8; (1901) 87.8; (1909) 75.2, 76.8, 78.4, 79.6, 79.6, 79.8, 81, 81.2, 81.4, 81.6, 81.6, 81.8, 82, 82.4, 82.4, 83, 83, 83.2, 83.4, 83.8, 84, 84.4, 84.4, 84.4, 85, 85.4, 85.6, 86, 86.2, 86.6, 86.8, 87, 87.2, 87.2, 87.4, 87.6, 87.8, 88, 88.6, 89, 89, 89, 89.2, 89.2, 89.4, 89.6, 89.8, 90, 90, 90.6, 90.8, 90.8, 92, 92.4, 93.2.		
Meharry Medical College	(1909)	81.8
College of Physicians and Surgeons, Memphis	(1907)	75.0
Vanderbilt University	(1909)	82.6
University of Nashville, (1907) 83; (1908) 75.6, 87.8; (1909) 83.2, 90.		
University of the South, (1905) 82.4; (1906) 84.2; (1908) 75.4.		
University of Tennessee, (1905) 77; (1909) 80.4, 83.6, 84.6, 85.6.		
Memphis Hospital Medical College, (1898) 75; (1901) 81.6; (1909) 75, 75, 75, 76.6, 77.2, 77.2, 77.6, 78.6, 79, 79.4, 80, 80.6, 83, 85.4, 85.4.		

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1905) 72.2; (1909)	66.6
College of Physicians and Surgeons Little Rock	(1909)	73.2
Medical College of Georgia	(1908)	51.4
Kentucky University	(1904)	70.4
Kentucky School of Medicine	(1906)	54.2
Louisville Medical College	(1906)	58.
Flint Medical College	(1909) 57.6, 66.4	
Tulane University of Louisiana	(1909)	72.4
Maryland Medical College	(1903)	72.6
Meharry Medical College, (1908) 61.2; (1909) 58.8, 59.4, 72, 72.6, 72.8.		
Memphis Hospital Medical College, (1893) 55; (1901) 61.6; (1908) 42.6, 53.6, 71.6; (1909) 34.4, 62, 63, 65.4, 67.6, 71.		
University of Nashville, (1872) 59; (1898) 69; (1908)		70.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1900)	Illinois
Rush Medical College	(1905)	Illinois
Flint Medical College	(1902)	Colorado
University of Michigan	(1900)	Michigan
Kansas City Medical College	(1903)	Kansas
Dartmouth Medical School	(1881)	Illinois
University of Pennsylvania	(1884)	Michigan
Memphis Hospital Medical College	(1903)	Texas

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Optometry Bill Defeated in Connecticut

The optometry bill which has been pending in the Connecticut legislature for several months past has been finally disposed of. The Committee on Public Health and Safety in the House, to which the bill was referred, reported unanimously against it. The report of the committee was accepted and the bill rejected about three weeks ago. The next day a motion to reconsider was made and tabled. Last week the motion to reconsider was taken from the table and lost. The next day in the Senate the report of the committee against the bill was accepted and the bill was rejected without a dissenting vote. This apparent unanimity of action on the part of the Connecticut legislature regarding this bill would indicate that the recent wave of optometry legislation, one of the most foolish and pernicious of recent years, has spent its force and that legislators as well as members of the profession are beginning to appreciate the danger of enacting such ill-advised laws.

Newspaper Support of Association Work

The statement has often been made, and not always without good grounds, that it was exceedingly difficult to interest the newspapers of the country, even the most prominent and influential ones, in the efforts of the Association and its various constituent state societies in the direction of public health sanitation. The enormous influence and power of the great city newspapers has been fully recognized. Unfortunately, they have not always appreciated the importance of the activities of the medical profession or else have apparently

felt that they were inspired by ulterior motives. A change of sentiment in this direction has been apparent for some time and editorial utterances have not been wanting, showing that the leading newspapers of the country are beginning to appreciate the importance of the work of the Association and to give it the commendation which it deserves.

PHILADELPHIA NORTH AMERICAN

One of the most gratifying evidences of this awakening sentiment is an editorial which appeared in the Philadelphia *North American*, Saturday, June 12, immediately after the Atlantic City session, under the head "'Forward!' The Doctor's Message." While too long to quote verbatim, the following extracts are given:

"A gathering of doctors to discuss matters of interest to themselves a few years ago would have meant nothing at all to the American public. There would have been much wrangling over petty "ethical" disputes, much of quarreling about polysyllabic prescriptions, much grave and dignified folde-rol to convey the impression that modern medicine is a mystery. The deeper is our gratification in summarizing our observation of the proceedings at Atlantic City this week of nearly 4,000 physicians representing about every state and territory in the United States, and many foreign countries, who met to attend the sixtieth annual meeting of the American Medical Association. Our most temperate estimate of the work of those doctors assembled is that it has been not only a distinct gain for public health, a distinct advancement of the profession of healing, but a profit and a progress for public enlightenment, for civic morality and for the civilization of the nation. We have studied every debate, every address, every resolution presented during the Atlantic City meeting. We have failed to detect a single proposal or utterance intended to further the selfish interest of an individual or a clique or any institution or group of institutions or to exalt a narrow doctrine or any theory not universally accepted by scientists. We have been unable to pick out even one suggestion demanding consideration which did not have its inspiration in a broad, beneficent spirit of uplift not for a class or a community alone, but for the whole race. . . .

"There was not a man in that great gathering who had a dollar or an office to gain—many had much to lose—by any pronounced stand on the liquor question. Yet these are some of the messages to their countrymen by those calm scientists:

Study has shown that alcohol is a death-dealing agent and not the panacea that it is supposed to be.

Americans need stimulants less, perhaps, than any civilized people, for the climate and life, with its changeableness, uncertainty and haste, are stimulants enough without adding more artificial ones. The safer course for the American is to abstain entirely from alcholic drinks.

Alcohol prescriptions and narcotics of all kinds often start incurable habits.

"There was advocacy that will stir thought throughout the length and breadth of the land for a national department of public health as a means of prolonging life in America with these remarkable suggestions:

There should be national or federal control and supervision of all streams, navigable rivers, fresh water lakes and dairies throughout the country. This would go far toward stamping out typhoid fever conditions and consumption, for it would mean a cessation of the pollution of all bodies of water and ridding of all dairies of diseased milch and beef cattle.

Less destitution would prevail by carefully enforcing the laws of emigration. A greater amount of happiness would prevail due to a saving of from 25 to 50 per cent. in lessening the death rate of human life, and thus from an economic point of view would result in an extension of the period of life, which would in turn result in a complete evolution of the human race.

"But more impressive to us than all else—more thought-provoking even than the urging of still stronger battling against tuberculosis, bad sanitation, bad food, bad water and every other factor in the creation of disease—was the consistent striking by those doctors at the root and not the fruition of degeneracy, disease and death. Scarcely a speaker failed in the discussion of his topic to delve straight down to care of the child. The thought of all was summarized in the resolutions declaring that supervision of the health of school children is essential for the welfare of the race, and that the education of children in sanitation and the use of preventives should be made part of the studies.

"These are but running comments on the proceedings of the largest and ablest society of physicians in the western world But examine all that they did in detail and if any act or utterance be found not in harmony with the splendid impulse they gave toward the perfection of preventive medicine, we shall confess an error and an oversight. Yet every doctor who aids in the promotion of hygiene and preventive medicine is reducing disease and thereby lessening the likelihood of large professional profits.

"Try to put a halo about the head of any one of those big, broad men and you will be laughed at for your pains. Call him altruist or philanthropist and you will gain no more thanks than if in your folly you called him quack or charlatan. They are very human, these doctors—else they would not be good doctors. For they know humanity as it is given to no others to know it. Men may lie to their lawyers. To their spiritual counselors they may persist in plausible hypocrisy. But no man may keep up the mask of his soul between him and his doctor. For 'when the body triumphed and the last poor shame departed, these abode our agonies and wiped our sweat away.'

"These are the ones who see humanity in the raw—see man's nature stripped by pain of every garment of falsity and convention. It is not of the great chemist nor the great biologist we speak; only in slight degree of the surgeon or the specialist. But of the practicing physician, who sees all sorts and conditions of men and more nearly than any other fellowman, we say that above all others he would be excusable if he became a selfish, self-centered, hardened cynic.

"And when instead we see a display of such splendid humanitarianism as has been presented by the American Medical Association, we can only avow our belief that in their calling there is some subtle, intangible inspiration, which to a greater or less degree, implants in every true physician a spirit that guides his conduct for the general above his own good—a flash of the supernal light that makes of the world's greatest, 'gods, for they knew the heart of men; men, for they stooped to fame.'"

THE NEW ORLEANS ITEM

Even more interesting, because apparently written on the individual initiative of the editor, without the stimulus of a great medical meeting, is an editorial which appeared in the New Orleans *Item*, June 25, outlining as it does a plan for cooperation between the profession and the public almost identical with that proposed sometime ago and which the Association has been hoping soon to establish. The following paragraphs from the *Item* editorial, which was entitled "Our Medical Friends and Disease," should be widely copied and carefully considered:

"It is remarkable how few physicians understand and practice the art of presenting health topics to the public. The ideal medium for conveying information on preventable diseases in the daily newspaper. Medical societies recognize this stupendous medium for treating suffering humanity by practically authorizing those of its members who show a disposition to communicate with the public on the subject of disease. They leave the great problem involved in the advance of science to discussions conducted in technical terms in their own associations. We do not approach the subject from a commercial viewpoint, but we do know that there is a very widespread interest on the part of all the people on health topics. We feel that thousands of cases of illness would be prevented if there appeared in each newspaper in the country every day a clear and simple discussion of some side or phase of disease prevention and cure. There should be some agency in the United States of America, sufficiently patriotic, sufficiently intelligent to furnish the daily press with well-prepared articles of a public character on health topics. Preferably these articles should come from a committee of the American Medical Association and should bear their stamp. It might come from the Federal Government or an association of the health officers of the various states of the United States, as well as the health officers of the large cities of the United States. The world is waking up to the possibility of the prevention of disease and to the desirability of informing all of the people through newspapers, magazines and periodicals which reach all the people, regarding the best method of living. . . .

"Ask any intelligent physician how much of his practice comes from people having preventable diseases. They will tell you that almost all diseases are preventable. Tuberculosis is an avoidable and preventable disease. Nine-tenths of all the insanity that people have comes from improper forms of living. Smallpox is one of the few diseases that medicine recognizes and takes the proper steps to prevent. Typhoid fever, malaria, dysentery, whooping-cough, pneumonia and a number of other diseases are preventable. There are poisons, pains and aches, shocks, burns and wounds, and hundreds of other troubles that afflict people, and cause unending pain and suffering that can be either avoided or cured by the spread of information and a general knowledge of the remedies for these troubles.

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"As we have to live and must read something, and as we all go to school and must study something, why should we not learn about these things that are practical, and educate ourselves and others so that while we are alive we may be as healthy as possible. We should know the effect on the human system of the various foods that we eat, of the various things that we drink, of the tobacco that we smoke, of the hours that we keep. We should know how much sleep we need, and how to get the best result from it. The schools are teaching hygiene and some knowledge of the better care of the body, but the work is not going forward as fast as it might. It is by no means as thorough as it should be, nor is it popularized to the extent that it might be.

"The world is growing better along these lines, but it could grow better at a very much more rapid rate. New Orleans should not need education along these lines as much as other cities. The greatest physician in Louisiana, the greatest man in the practice of medicine in the South, should be chairman of its health board, and around him he should have a staff of physicians consisting of the pick of the specialists in all lines. Ten dollars should be spent for the public health for every dollar that is spent now. . . .

THE LOUISVILLE JOURNAL

As an evidence of public interest not only in the discussion of general questions but in the specific reforms as well, the following editorial on "The Campaign for Sanitation," from the Louisville (Ky.) *Journal*, shows how readily the leading newspapers respond to efforts for better sanitary conditions:

"The State Board of Health is making a commendable effort to impress on the people of Kentucky the importance of sanitation. The recent visit of Mrs. Caroline Bartlett Crane has done much to arouse popular interest. Dr. J. N. McCormack is now visiting various towns in western Kentucky, and in his lectures is urging city and county officials and local health boards to more active endeavor.

"It is a grievous fact that in many communities there is very little attention paid to these all-important matters. The simplest rules of ventilation and cleanliness are ignored in public buildings and places of assembly. In the majority of the small towns there is no systematic or coordinate plan for the insurance of sanitary conditions, and in some of the larger towns affairs of sanitation are woefully neglected. Even in cities where health boards are active the inspection, often, is less careful than it should be. The simple process of keeping the streets clean seems to be beyond the ability of the average city administration. Water accumulates in gutters and mudholes to remain for days, breeding mosquitoes and malaria. In the long time between cleaning streets are covered with all manner of rubbish that is both unsightly and insanitary. If these conditions prevail in some of the main-traveled thoroughfares, what must be the predicament in some of the alleys —to say nothing of back yards?

"While it is not possible to abolish disease, there is much that could be done, in large towns and in small, that would indubitably have a tendency to improve the health of the dwellers therein. There are ponds that might be drained, weeds that might be cut, plague spots that might be eliminated and nuisances of various kinds that might be abated. Every town has its breeding places for germs, for flies and for mosquitoes. Scientists declare that it is possible for one ordinary housefly to carry thousands of germs. Physicians look on the fly and the mosquito as two of the most powerful agencies for the transmission of disease. Despite these well-known facts, many towns are doing practically nothing toward the eradication of these pests. . . .

"Dr. McCormack and other state health officials deserve the highest commendation for the intelligent and continuous efforts they are making toward the improvement of conditions in Kentucky. Results may be slow of attainment, but something has been gained all along the line. With the continuation of a vigorous and well-directed campaign there is much that may be achieved, although there be difficulties, almost innumerable, to overcome."

The enormous power of the daily newspapers as a means of reaching and educating the public can not be overestimated. Intelligent and active cooperation between the organized medical profession and the public press of the United States could do more to save human lives and to prevent unnecessary sickness than could be secured by any other possible agencies. If the medical profession will furnish instruction and if the newspapers will disseminate it, the sanitary regeneration of the country can speedily be brought about.

Society Proceedings

NEW JERSEY STATE MEDICAL SOCIETY

Annual Meeting held at Cape May, June 23-25, 1909

The officers elected were noted in THE JOURNAL, July 10, page 123.

Progress in Medicine

DR. THOMAS H. GRAY, East Orange, delivered the Oration in Medicine, which contained a review of the progress made in medicine during the memory of physicians now in practice. He thought that there should be a national board of medical examiners, just as there is a national pure food law.

Chloroform Anesthesia in Throat Operations

DR. FREDERICK P. C. DEMAREST, Passaic, considered chloroform the best anesthetic to use in adenoid operations on children under 12 years of age, because ether was irritating to the respiratory tract, producing a flow of mucus, which greatly embarrassed the operator. It takes a more skilled anesthetist to administer chloroform than to administer ether. The chloroform must be pure and fresh, not having been opened or exposed to a bright light, and must be given by the drop method.

DISCUSSION

DR. GEORGE EDWARD TUERS, Paterson, thought that the field of chloroform as an anesthetic was large, and admitted that it was being used more and more every day. Compared with other anesthetics, he regarded it as the most pleasant by far, and also the most dangerous; the quickest to anesthetize, and the quickest to kill.

DR. WALTER S. CORNELL, Philadelphia, emphasized the necessity of mixing air with the chloroform. He thought there should be some arrangement of wire-net with gauze over it, or that the finger should be placed under the gauze in such a manner as to admit air.

DR. THEODORE F. LIVENGOOD, Elizabeth, said that less and less is being heard about deaths due to chloroform, because better qualified men administer it. He then described the manner in which the discovery that suspension with the head down and the legs elevated would resuscitate a person dying from the effects of chloroform had been made in carrying some rats by their tails after they had been chloroformed and were apparently dead. He considered chloroform a good anesthetic in cases in which it was practicable to do a rapid operation, but not in those cases in which prolonged periods of anesthesia was necessary.

The Influence of Sleep on Arteriosclerosis

DR. W. W. BEVERIDGE, Asbury Park, said that similar changes to those occurring in the hearts and blood vessels of elderly persons frequently occurred in the young, and were not physiologic, but pathologic. Nutrition probably had something to do with the cause of these derangements. He thought that a more thorough study of the constitution of the cells of the body might lead to greater knowledge regarding the secondary changes produced by this condition. He then referred to the physiologic function of the sleeping state as being one of the most important in the body, having to do with nutrition and the repair of the wear and tear caused by the day's activity. The amount of sleep required was in proportion to the amount of nutrition needed. He believed that the retrograde changes incident to old age might be retarded by a more careful study of the processes that go on in sleep and affect the nutrition of the cells.

DISCUSSION

DR. W. G. SCHAUFFER, Lakewood, did not agree with the view of Dr. Beveridge that sleep, properly made use of, could counteract the degenerative changes in the arterial system and in other organs of the body. He also differed with Dr. Beveridge in the opinion that arteriosclerosis was more or less easily diagnosed. He admitted that some of the methods of treatment now employed caused regeneration of the tissues,

but said that others did not. He thought that the fallacy in the paper was the view that sleep gave the food a chance to be absorbed and changed into the elements that built up cells.

DR. PHILIP MARVEL, Atlantic City, divided the principles emphasized in the paper into the regenerative influence of nutrition on cell life or cell energy and the assumption that sleep is the process that presides over the processes that convert the nutrition or nutritive elements into cell life or energy. He said that no one knew just what sleep was, and therefore could not determine what sleep did. So far as the voluntary forces of the body were concerned, rest was sufficient to restore them. The involuntary forces, however, continued much the same, no matter whether the person was sleeping or waking. He said that no one could tell to what extent any of the individual forces involved in metabolism entered into the reparative or recuperative effect on a cell. The cell was a composite body, which under various influences was made to do different things; and the forces of the body were in some way relative to the unit of the cell. Therefore, it was hard to say that sleep was that force which so controlled the forces of life as to add to the longevity of the average individual.

DR. REVERIDGE thought that the fact that we did not know what sleep was did not constitute a good reason for not discussing it. He said, however, that something was known about sleep; and the fact that it occupied one-third of one's lifetime made it important to learn more about it.

President's Address: Recent Advances in Medical and Surgical Work

DR. DAVID ST. JOHN, Hackensack, said that medicine, with surgery, was becoming an exact science; and that while great advances had been made in the diagnosis and cure of some diseases, there were others about which investigators were still in doubt. Among medical methods of diagnosis and treatment recently engaging attention, he mentioned tuberculin therapy, the use of vaccines made from dead typhoid bacilli, the Flexner treatment of cerebrospinal meningitis, the use of extract of leucocytes in the treatment of pneumonia, the treatment of erysipelas with polyvalent serum, the serum treatment of chronic nephritis, the Wassermann serореaction in syphilis, and the Rogers-Beebe serum for treatment of exophthalmic goiter. The advances in the surgical field, he stated, had been equally promising. Among these he mentioned the successful suturing of wounds of the heart, the starting of the heart's action by rhythmical compressions and by injection of fluids after this action had ceased, the suturing of arteries to veins in transfusion, the new method of treating aneurisms devised by Matas of New Orleans, and the transplantation of parts of the body into a different animal. With these great advances already made, the future, he thought, was full of promise.

Oration in Surgery: Diagnosis of Acute Abdominal Infections

DR. GEORGE BREWER, New York City, limited himself to a consideration of two border-line subjects having largely to do with the differential diagnosis of acute abdominal infections: acute unilateral septic infarction of the kidney, and acute perforation of an intestinal diverticulum.

Of the former, he recognized three clinical types: (1) the severe, which progresses to a fatal ending unless treated by nephrectomy; (2) the intermediary, in which the initial symptoms are severe, but the evidence of grave progressing disease is wanting; and (3) the mild, which requires no operation, and is of surgical interest only because it accounts for cases in which, after an attack of appendicitis, operation reveals no lesion whatever. Acute diverticulitis, he divided into four groups: (1) mild; (2) more severe and progressive; (3) cases in which there has been a rupture of the diverticulum with the formation of a localized abscess, either intraperitoneal or extraperitoneal; (4) cases in which rupture of the diverticulum into the peritoneal cavity has taken place. The symptoms of acute diverticulitis are practically identical with those of acute appendicitis, except that it may occur on the left side of the abdomen.

(*To be continued*)

AMERICAN ACADEMY OF MEDICINE

Thirty-fourth Annual Meeting, Hotel Dennis, Atlantic City, N. J., June 5-7, 1909

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SYMPOSIUM ON EXCEPTIONAL CHILDREN NOT NEEDING SEGREGATION

Classification of Exceptional Children as a Guide in Determining Segregation

DR. MAXIMILIAN P. E. GROSZMANN, Plainfield, N. J.: Segregation in its full meaning refers only to those children who have to be taken out of human society altogether, temporarily or permanently. Unsegregated exceptional children may require special schools or special classes in ordinary schools. To give a clearer understanding of the problem of exceptional children I desire to submit a tentative classification and terminology as a working basis:

A. NORMAL CHILDREN.
   1. Typical children.
   2. Pseudo-atypical children.
   3. Atypical children proper.

B. SUBNORMAL CHILDREN.
   1. Defective children.
   2. Children of arrested development.
   3. Children of rudimentary or atavistic development.

C. ABNORMAL CHILDREN.

No classification can differentiate all individuals. It is extremely difficult to determine a normal standard so as to preclude ambiguity. Deviations from the normal standard do *not* invariably imply a corresponding decrease of usefulness for human progress. In one detail or another a different viewpoint may suggest other or additional terms for special types. This classification is intended to be one of children and not of adults. It also does not imply rigidity of types. Those children called pseudoatypical need little or no segregation. Special or ungraded classes in schools will help these. From the special class, however, the pseudoatypical child may be speedily returned to the ordinary classes. Too often a purely medical cure is considered sufficient—for example, a case of adenoids. Such a child may need very expert educational treatment for some time after its cure. Of the atypical group neurotic and neurasthenic children require temporary segregation, or at least education in special schools where their entire life can be remodeled. Of the children of the subnormal group, those who are merely incomplete or defective are most encouraging. With the children whose development is permanently checked before maturity is reached this paper has little to do. Redemption through prevention may come in the next generation.

Necessity of Expert Medical Inspection of Public Schools

DR. ALBERT RUFUS BAKER, Cleveland: The school teacher's opinion as to what constitutes an exceptional child is often an erroneous one. Teachers will frequently credit the myopic child with more gray matter than it has, and the bright child, suffering from hyperopia, astigmatism or adenoids, may be called a dunce. It is often the school teacher who assigns impossible tasks, rather than the pupil, who needs medical supervision. The medical inspector should be specially trained and should devote his entire time to the work and should not be, as is frequently the case, a recent graduate who is given a few hundred dollars a year for making perfunctory visits to the schools. In Cleveland the school physician is paid $600 annually and a better class of men is attracted. To me the only practicable solution is the employment of expert examiners who shall devote their whole time and energy to making these examinations.

The Leakage in Our Educational System

MARGARET BANCROFT, president Bancroft Training School, Haddonfield, N. J., (paper read by Dr. Farrington): The inability of a certain percentage of school children to make normal advancement is a familiar phenomenon. The final result is a leakage of educable material into the streets, the jails and the custodial schools. A close study will show that practically every case of slow advancement is due to physical disability. The work of saving these children the handicap of imperfect education or the calamity of custodial life is primarily the duty of parents and teachers. An understanding of elementary physiology, psychology, hygiene, etc., should be required of

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every person who assumes the responsibility of parenthood or undertakes to rear and educate children. Ignorance of the elementary facts of life, growth and education on the part of parents or teachers may result in grave injury to the children. The medical profession must bear the responsibility of a large part of this ignorance which exists. We are in the habit of speaking of the mentally defective children as if the real mind of the child were at fault. The defect will be found in the injured cortex, the undeveloped association fibers, the broken axis cylinders, the blighted sensory organs, or the weak metabolic processes, and not in the higher faculties which compose the personality. We need organized and systematic instruction of parents by physicians. We need really practical courses in physiology, psychology, hygiene, etc., conducted by able physicians, in the curricula of our normal schools. We need experimental laboratories in connection with our public school systems, in charge of fully trained persons, competent to examine children who deviate from the normal work or progress of the regular grades, and to plan and execute efficient special methods of training to correct this deviation. We need better taught and more widely read physicians. Above all, we need a more optimistic spirit in handling exceptional children in order that difficult cases may not be pronounced hopeless and the children packed off to custodial schools, a procedure which is little short of criminal. The people need to be taught the truth about these things, and the opportunity to give such instruction is in the hands of the medical profession. When adequate knowledge has been imparted, the work of stopping the leakage in our educational system will be an easy task, for enlightened public opinion is all-powerful.

Care of Exceptional Children by the Children's Bureau of Philadelphia

DRS. WALTER S. CORNELL and J. PRENTICE MURPHY, Philadelphia: The paper is a study of 70 cases out of 6,824 children considered by the bureau for care during 1908. Two great principles underly this work: (1) The superiority of the private home over the institution as an environmental influence; (2) the basic normality rather than abnormality of the exceptional child. The second principle is proved, first from the standpoint of the physician, as these children show no particular stigmata other than those simply due to neglect, such as squint from hyperopia, high palates from adenoids, flat chests from nasal obstruction or poor nutrition. Active types of exceptional children, those with excess of physical energy but no training, require rather long training which is best given in an institution. Backward children (defective intellect plus temperamental eccentricities) first need bracing in institutions usually but can be provided for at times in family homes direct. For morally difficult children very little scientific work is being done. There is at present no good institution for this class of children. Those standing in immediate need of strict discipline are best treated in private homes, but this is attended with such cost as to be unwise. Difficult girls present a more serious problem than boys. To care for them in institutions is the best plan in most cases. Causes of exceptional children in the family are irregular occupation, lack of training and ignorance, drunkenness; outside of the family, bad housing, inadequate and poorly adjusted school facilities, lack of playgrounds. Of the 70 children forming the basis of this paper 49 have improved, 12 being returned to their own homes. Of the 21 not improved, 12 were sent disciplinary institutions for further treatment and 9 are still in their own homes.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-Fifth Annual Meeting, Held in New York, May 27-29, 1909
(Concluded from page 317)

Organic Basis of Emotional Expression Illustrated by Involuntary Laughing and Weeping

DR. CHARLES K. MILLS, Philadelphia: The main object of this paper is to demonstrate the probable cerebral mechanism of emotional expression, in other words, to prove the existence in one of the basal ganglia of a reflex, emotive or mimetic center related by connecting tracts to both exciting and inhibiting emotive centers in the cerebral cortex, and by emissive tracts to the centers for facial expression in the bulb, and to spinal centers for movements of the limbs concerned with the expression of emotion. Some of the conclusions which I believe to be warranted by the study of several cases are: 1. In the thalamus or lenticula or in some undetermined region at the base of the brain a center for mimetic expression is located, although von Bechterew's view as to the thalamic center could not be regarded as absolutely demonstrated. 2. This center is connected with a prefrontal cortical evoking center, and also with an inhibitory motor center. 3. The pathway from the prefrontal center is probably by way of the anterior limb of the internal capsule and one of the segments of the lenticula. 4. The pathway for the motor inhibitory center is probably by way of a tract at or near the knee of the capsule. 5. The emissive tract from the basal emotive center to the nuclei of the bulb and spinal cord is probably independent of the pyramidal tracts, although passing in close contiguity with this tract. 6. The cortical centers, evoking and inhibitory, concerned with emotional expression are more highly developed in the right cerebral hemisphere than in the left; in this way contrasting with the speech centers with their high development in the left hemicerebrum.

DISCUSSION

DR. MORTON PRINCE, Boston: Attempts have been made by psychologists and neurologists to solve this problem, but it is so large and has so many aspects that it is a very difficult one. We must assume that all automatic movements are organized somewhere. The only question is, where? Recently Roussi has undertaken to reinvestigate this whole problem both by experimentation on animals and from the clinical material found in Dejerine's and Marie's and other clinics in Paris. His work seems very careful. He has come to the conclusion that the sole function so far established in the optic thalamus is sensory. He contradicts strongly the location of movement of any kind, whether mimetic or otherwise, in the optic thalamus. He has gone over the work of others carefully, and if his experiments stand the optic thalamus would have to be eliminated as a center.

DR. M. ALLEN STARR, New York: I hope that in the review of the literature Dr. Mills will give due credit to Dr. Seguin, who published a paper which has been reprinted in his "Opera Minora," and which contains almost every fact that Dr. Mills has presented. Clinically I have been accustomed to divide cases of disturbances of emotional expression into two separate and distinct classes: first, the cases to which Dr. Seguin called especial attention, of emotional disturbances connected with the pons varolii with or without involvement of the optic thalamus; and Dr. Ernest Sachs, whose studies on the optic thalamus are more thorough and convincing than those of anyone else in the last ten years, is present, and I think it would add to the proceedings to invite Dr. Sachs to express his opinion as to the emotional centers in the optic thalamus. Second, the cases that show emotional disturbances in which the lesion is above the level of the crus where we have distinct hemiplegia, usually transient and passing off leaving a lack of emotional control.

DR. ERNEST SACHS, New York: During the past year and a half I have been engaged on experimental work on the thalamus in the laboratory of Sir Victor Horsley, and some of this work may throw light on the question Dr. Mills has raised. There is evidently a distinct connection between the thalamus and the cortical facial center, for a lesion in the lower part of the lateral nucleus of the thalamus leads to degenerations which go exclusively to the facial center, while the region dorsal to this sends fibers to the arm and leg centers. Furthermore, my work has shown that only the lateral part of the thalamus, that portion outside of the lamina interna is connected with the cortex. The median and anterior nuclei are only connected with the caudate nucleus. The center median seems to be only an association center among the thalamic nuclei and gives origin to some of the fibers of the posterior longitudinal bundle. The hypothalamus is not intimately connected with the thalamus as heretofore supposed, but bears a much closer relation to the globus pallidus of the lenticular nucleus. As to the functions of the thalamus much still has

to be done, but certain points already seem to be disproved. There is no evidence of any lachrymation arising from thalamic stimulation, as the Russians under v. Bechterew have claimed. Screaming, when it does occur, only is pronounced when the termination of the fillet fibres are irritated, and this should probably be interpreted as meaning that the current has produced a strong sensory impulse in response to which the animal screams. The motor phenomena in the median part of the thalamus are mainly concerned with movements of the eyes usually conjugate in type and this may be a superior peduncle response.

DR. J. J. PUTNAM, Boston: I wish to corroborate Dr. Starr's opinion. I have seen the bulbar patients act in the manner described by Dr. Starr, yet with no particular emotion. There is a fairly close resemblance in some stages between the movements which go with pleasure and those which go with grief, and one seems to be an intensification of the other. In the other class of cases in which one sees a lesion with somewhat similar state the emotion is certainly much more strongly present, and yet the patient is not conscious of pleasure or the reverse.

DR. HUGH T. PATRICK, Chicago: This group of symptoms is more apt to occur in bilateral or multiple lesions. One of the principal elements is probably a lack of inhibition. It is nearly always possible to start one of these patients to laughing or crying by appropriate suggestion. One may talk to one of these patients in a sympathetic or lugubrious tone and he will begin to weep, and change to the jocular vein and he will begin to laugh.

DR. CHARLES L. DANA, New York: I have studied lately the syndrome of optice thalamus lesions, and we know now definitely what happens in an ordinary optic thalamus lesion. It seems to me that the old idea that the thalamus has something to do with expression is not correct and certainly not unless the thalamus is injured on both sides. Acute lesions of the pons are associated with explosive laughter and crying. In my experience, the location of the lesion when there is an explosion of laughter or crying has been almost always in the lenticular zone. The disturbance is often associated with disturbance of speech, as certain forms of jargon aphasia. So far as clinical and pathologic investigations go, we have to point to the lenticular zone and pons as being the places which are anatomically localized as the most important seats for the mechanism of expression.

DR. F. X. DERCUM, Philadelphia: I have had under observation for some time past a case of motor aphasia with forced laughter; the patient laughs almost continuously, as some of our patients with bulbar palsy laugh. Here, again, we have reason to infer that there is possibly a lesion of the lenticular zone.

DR. C. K. MILLS, Philadelphia: I have already given full recognition and consideration to the writings of Seguin and Roussi. My own views are that the part the mechanism has in evoking the control of emotion is a complicated one; that a center, concentrated part of the neural mechanism, does reside at the base of the brain. I am not sure that it is in the thalamus. I am inclined to think that it is in the lenticular zone. With regard to whether emotion itself precedes the evoking of the emotional expression, my own cases, at least, several of them, would seem to indicate that emotion, as we ordinarily understand it, does not precede the expression of painful or of pleasurable emotion in either weeping or in laughter.

Tic Douloureux of the Facial Nerve with Cure by Physiologic Extirpation of the Geniculate Ganglion

DR. L. PIERCE CLARK and DR. ALFRED S. TAYLOR, New York (Dr. Clark's report): It has been fairly well proved that the facial is a mixed nerve, that its sensory ganglion is the geniculate ganglion and its sensory root the *pars intermedia* of Wrisberg. This ganglion is of the spinal type and, therefore, eligible to inflammations, as, herpes zoster, and degenerations, as, tic douloureux. It is probable that not a few neuralgic conditions of the ear are derived from disease of the sensory part of the fascialis and not, as commonly supposed, of reflex origin from the teeth, nose or throat. The neuralgic area of the facial as concerns otalgia is the anterior wall of the external auditory canal and the skin just in front of the ear. This is also supplied by a branch of the trifacial, but, if all other parts of the trifacial are unaffected, pain in this area doubtless has its seat in the facial. When all other antineuralgic measures have been exhausted without relief it is logical to assume that, as in trifacial neuralgia, operation should be done, consisting in case of the facial, of physiologic extirpation of the geniculate ganglion by cutting the pars intermedia. A patient, Mrs. E. T., aged 28, in February, 1907, began to have stabbing pain just in front of the left ear which later became of daily occurrence and lasted from two to three hours. Ear, eye, throat and general medical examination gave negative results, hence the conclusion was reached that the pain was a true tic douloureux of the geniculate system and physiologic extirpation of the geniculate ganglion was recommended. This was performed by Dr. Alfred S. Taylor, whose report follows.

DR. TAYLOR'S REPORT: The patient was referred to me by Dr. Clark with the request that the geniculate ganglion be removed, but researches on the cadaver showed this to be impracticable on account of the danger of doing injury to surrounding structures; therefore it was decided to cut the sensory root in the posterior fossa of the skull. An osteoplastic flap was turned down in the occipital region, the dura incised with the base of the flap toward the midline and its upper border just below the lateral sinus; the cerebellum was retracted and the pars intermedia exposed at the internal auditory meatus and cut. The seventh nerve and the upper part of the eighth nerve. The result was a complete facial palsy and deafness of the left ear, but complete relief of pain. The facial palsy is slowly improving and hearing has been completely restored.

The Reflexes in Hysteria

DR. PHILIP COOMBS KNAPP, Boston: Babinksi has claimed that hysteria is incapable of modifying the tendon reflexes, and some of his followers have also contended that the skin reflexes are not altered. This is contrary to the old teaching that the skin reflexes are diminished over the anesthetic area, and that the tendon reflexes are often exaggerated on the paralyzed side in hysterical hemiplegia. I have studied the reflexes in 100 cases of hysteria in which there was a diminution of sensibility in one side of the body. I take exceptions to Babinski's claim that such a hemianesthesia was due to unconscious suggestion by the physician. I found some exaggeration of the tendon reflexes in 86 cases and considerable exaggeration in 41; a greater percentage than is found in normal persons. I feel skeptical as to the existence of true ankle clonus, loss of knee-jerk or Babinski's reflex due to hysteria. The reflexes were found to differ on the two sides in 76 cases. In 57 cases the tendon reflexes differed on the two sides, the knee-jerk differing in 37 and the ankle-jerk in 30. In 38 cases the tendon reflex was greater on the anesthetic side; in 19 on the sound side. The plantar reflex was absent in only 2 cases, out of 24, and the abdominal reflex was diminished or lost in the anesthetic side in 24 cases out of 51. These cases therefore show that hysteria apparently modifies both the skin and tendon reflexes.

DISCUSSION

DR. MORTON PRINCE, Boston: I agree with Dr. Knapp regarding Babinski's theory. I do not believe that hysteria is merely a matter of suggestion or that the anesthesia encountered is entirely an imaginary condition. There is no question that in hysteria there is a great increase of suggestion and that therefore you can produce as many states as you please. You can produce anesthesia and modify it, you can draw the boundary line wherever you please, but that does not show that there is not an essential anesthesia in hysteria.

DR. CHARLES L. DANA, New York: I have made tests on the reflexes in hysteria and have come to conclusions quite opposite to those of Dr. Knapp. Many years ago I reported a study of thirteen cases of true hysteria and in all of them I found reflexes lessened on the paralyzed hemianesthetic side. Since then I have noticed the same condition. I have always taught that in hysterical states the knee-jerks are rather diminished on the affected side.

DR. F. X. DERCUM, Philadelphia: I have found the reflexes very commonly unequal on the two sides. On placing the legs

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in exactly the same position in the majority of my cases I have found the knee-jerks plus. Dr. Dana finds the opposite. The difference may be due to our methods of examination.

DR. HUGH T. PATRICK, Chicago: This matter of reflexes is ordinarily very difficult. We have all seen at different times a difference in the knee-jerks in the normal person, the difference depending on the amount of clonus which the patient passed into the quadriceps at the time we strike the tendon. The same thing carried a bit further has satisfactorily explained the difference in deep reflexes in hysteria.

DR. C. K. MILLS, Philadelphia: I agree entirely with Dr. Knapp in his presentation of this subject.

DR. P. C. KNAPP, Boston: The statement that the reflexes may be made to vary with the method of our examination is far-fetched. The reflexes do vary according to the method employed, but many of us certainly are capable of examining the reflexes and determining whether they differ on the two sides in an ordinary case of hemiplegia and whether they are diminished in the case of tabes. That is something we are supposed to know as part of our art as neurologists.

Thrombosis of the Cervical Anterior Median Spinal Artery; Syphilitic Acute Anterior Poliomyelitis

DR. WILLIAM G. SPILLER, Philadelphia: With the exception of the case reported in this paper, I know of no instance in which thrombosis has been demonstrated by necropsy to be confined to a small portion of the anterior cervical supply. The case is a contribution to syphilis as a cause of acute anterior poliomyelitis; to the position of the fibers of pain and temperature in the anterior part of the lateral columns and of the fibers of tactile sensation in the posterior columns; and to the pathology of brachial paraplegia. It demonstrates that occlusion of a limited portion of the anterior arterial system of the spinal cord or medulla oblongata produces a symptom-complex that should be capable of diagnosis even without necropsy. The case is as follows: About 4 years previous to his paralysis the patient had what was supposed to be spinal meningitis, from which he recovered. He had been in excellent health, and was employed at the time the paralysis occurred in an ice house, and with another man had been lifting blocks of ice weighing about 100 pounds. Fifteen or twenty minutes after lifting the last block he began to have pain between the shoulders, and felt numb and weak in the upper extremities. Ten or fifteen minutes later he felt weak and numb in the lower limbs. He gradually recovered the use of the lower limbs, although they remained somewhat spastic. He had normal sensation of touch everywhere. Sensations of pain and temperature were much affected in the lower and upper limbs and trunk. He was almost completely paralyzed in the upper limbs, and these limbs were much wasted. The microscopic examination showed that the lesion was thrombosis. The whole anterior part of the cord from the fourth cervical to the first thoracic segment inclusive was much degenerated. The pyramidal tracts were only slightly affected. The lesion affected the blood supply of the anterior part of the cord. The thrombosis was probably syphilitic in origin.

DISCUSSION

DR. BERNARD SACHS, New York: Everyone who has seen much of spinal syphilis will agree that anything resembling poliomyelitis in connection with spinal syphilis is an extreme rarity. I was busy with this subject ten or fifteen years ago and during that period I did not see a single case that could be relegated to this group. It seems to me that the only safeguard to put around one in endeavoring to interpret a condition of this sort during life is to insist that, in addition to the special symptoms, there should be some other symptoms pointing to a constitutional syphilis before it would be safe to make a diagnosis of syphilitic anterior poliomyelitis.

Pathogenesis of Tabetic Arthropathies Based on the Anatomic and Histologic Study of Two Cases

DR. ALFRED GORDON, Philadelphia: A degenerative state of the peripheral nerves is an essential element in the causation of the arthropathy, yet another factor is necessary, and this is trauma. In view of the hypotonia, loss of tendon reflexes and loss of sensations, traumata of the joints may occur very readily and pass unnoticed. In two of my cases, slight traumata became the starting points for later arthropathies. The smallest nerve branches distributed within and around the affected articulations (knees and foot), also the blood vessels have been carefully examined microscopically. Identical nerve branches and blood vessels were taken from the unaffected side of the body and equally examined for the purpose of control. Degenerative conditions were found in the nerves on both sides. Very slight changes were found in the blood vessels. The conclusion is that while degeneration of peripheral nerves is a *sine qua non* in the genesis of tabetic arthropathies, trauma is an indispensable element.

Pain in Tabes Dorsalis an Important Diagnostic Point in Differentiating from General Paresis

DR. E. D. FISHER, New York: The pains of tabes are lightning-like and distributed in the peripheral nerves either in the upper or lower extremities, are girdle-like or band-like and of a duller character. They occur either in the lumbar or dorsal region or in the form of the paroxysmal crises of pain involving the various visceral organs—stomach, bladder, heart, etc. These pains in typical cases of general paresis are rare, though we have general paresis of the tabetic type, that is, with irregular spinal symptoms in which pain is present. I direct attention to this one symptom to emphasize my opinion that we have two distinct diseases in general paresis and tabes dorsalis.

DISCUSSION

DR. GRAEME M. HAMMOND, New York: I can not attach the same importance to the pain symptom that Dr. Fisher does. We do not see all patients with tabes suffering from sharp, lancinating pain. In fact, one patient I now have under treatment, a man of great intelligence, who has had tabes for the past 10 years and has all the symptoms of tabes, including the classical Argyll-Robertson pupil, has not had a single pain during the whole course of the disease. On the other hand, I see cases of paresis in which I can not distinguish the pains complained of from the typical pains of many tabetics. They are sharp, lancinating in character in the legs or in the arms; generally in paresis they are in the arms as well as in the legs, but they are of distinctly the same type. The symptom of pain, therefore, is not one which can be relied on in making a differential diagnosis.

DR. H. N. MOYER, Chicago: I would like to know what typical symptoms a tabetic ought to have. There may be such, but they do not come frequently under my observation. The last speaker spoke of the typical changes in the cord; so far as my examination of cords has gone I have not found typical changes. Unquestionably tabes passes into paretic dementia of the typical sort. Not as commonly as is generally supposed, but undoubted cases are seen. I remember a classmate whom I had under observation for 12 years. There was no question of his having typical tabes. He had pain and staggering when he walked. In the last year of his life he passed into typical paretic dementia and fortunately I was able to get the cord and brain and the changes in the brain were the characteristic changes that are seen in paretic dementia and in the cord were also found the typical changes of tabes.

DR. E. D. FISHER: I purposely made my statement as sharp as I could to bring out just the discussion which has taken place. Dr. Hammond's experience about the course of the disease in patients without pain in tabes is, of course, a common one. We may find a patient with tabes when all the symptoms are those of ataxia. Those irregular cases are the ones that I would say are apt to pass into general paresis.

Surgical Treatment of Athetosis and Spasticities by Muscle Group Isolation

DR. SIDNEY I. SCHWAB and DR. NATHANIEL ALLISON, St. Louis (Dr. Schwab presented the paper): Athetoid and spastic conditions of organic origin are essentially similar processes due to several factors; the essential mechanism is nervous in origin.

The term "muscle-group isolation" implies the isolation of the muscle or group of muscles which are at fault in the production of contracture deformity or athetosis. It is made effective by cutting off from the central nervous system the connection along which the abnormal impulses, active in caus-

ing spasticity or athetosis, are transmitted. This is done by isloating the nerve and injecting it with an alcoholic solution. There results an immediate paralysis of the physiologically stronger group of muscles without interfering with the free muscular use of the antagonists. At this point physiologic exercises planned to further strengthen the antagonists may be used.

DISCUSSION

DR. B. ONUF, New York: It so rarely happens that we get therapeutic suggestions at meetings that when we do get them I do not believe a speaker should make excuses for it. I have observed that athetosis is essentially a symptom of diseases which are acquired at a very early age. I have not seen a single case of athetosis in which the lesion which caused it was acquired in adult life. I explain this to myself theoretically by assuming that there was an interruption in the pathways between the cortex and lower centers at an early date and then these lower centers acquire a certain independence and movements are acquired which are entirely independent of the will. If this is the case, then if the offensive muscles are paralyzed for a period of six months these lower centers may again forget and the cortical centers again gain their ascendancy.

DR. S. I. SCHWAB: In case of athetosis we not only paralyze the muscles, but their sensory supply totally, because there is a theory that athetosis also depends on the abnormal sensory impulse as well.

Hereditary Spastic Paraplegia with Report of Seven Cases

DR. JOHN PUNTON, Kansas City, Mo.: Hereditary spastic paraplegia is comparatively rare. In the 7 cases I report heredity was the chief etiologic factor and was of great diagnostic and prognostic value. The first group consists of 4 cases, viz.: the mother, aged 59, in whom the disease had its onset after her marriage at the age of 23; a son, aged 34, in whom it began at 16; a son aged 32, in whom it began at 15; a son aged 24, in whom it began at 14 or 15. The second group consists of 3 cases, viz.: the mother, aged 43, in whom the disease began at 33; a daughter aged 7 years, in whom it began at 6 years; a daughter aged 5 years, in whom it began in infancy. As the disease is incurable the only measures to be taken are prophylactic and consist in discouraging marriage in persons with a tendency toward this disease.

Occupation Neuritis of the Thenar Branch of the Median Nerve; A Well-Defined Type of Occupation Atrophy of the Hand

DR. J. RAMSEY HUNT, New York: A well-defined clinical type of atrophy of the hand results from an occupation neuritis of the thenar branch of the median nerve, which is induced by a compression of the small motor branch of the median nerve, as it emerges from beneath the anterior annular ligament of the wrist. This thenar branch is purely motor, and innervates the abductor pollicis, opponens pollicis, and the outer head of the flexor brevis pollicis. This group of cases is characterized clinically by a sharply defined atrophy, confined to the distribution of this nerve. The thenar eminence presents a "scooped-out" depression, lying between the outer border of the first metacarpal bone and the inner head of the flexis brevis pollicis. There are present well-marked reactions of degeneration in the affected muscles; and objective sensory disturbances in the distribution of the median nerve are absent. This type of atrophy interferes very little with the usefulness of the hand, as all the other muscle groups are normal. I would also call attention to another well-defined type of occupation atrophy of the hand described by me (*Jour. of Nerv. and Ment. Dis.*, 1908) which is dependent on an occupation neuritis of the deep palmar branch of the ulnar nerve as it passes between the tendinous origins of the abductor minimi digiti, and the flexor brevis minimi digiti. In this type, all the intrinsic muscles of the hand are paralyzed, with the exception of those which are supplied by the median nerve, and here as in the thenar type of occupation atrophy, sensory disturbances are entirely absent. The deep palmar branch of the ulnar being a purely motor nerve. The importance of these two types of occupation (motor) neuritis becomes immediately apparent from the resemblance which they bear to the Aran-Duchenne type of spinal atrophy. This resemblance is enhanced by the well-known fact that progressive muscular atrophy, beginning in the small muscles of the hand, not infrequently develops with occupations necessitating an over-activity of these members. There is no question but that cases which belong to one or the other of these two groups of occupation atrophies, without sensory disturbances, are not infrequently erroneously diagnosed spinal atrophies. Hence their clinical and diagnostic importance.

Horizontal Oscillation of the Eyeball in Paralysis of the Orbicular Branches of the Facial Nerve

DR. L. PIERCE CLARK and DR. H. H. TYSON, New York: It is fairly well known that in Bell's palsy the upward and inward or outward rotation of the eyeball is a physiologic act and is not pathognomonic of any special type of palsy as it may be shown in a normal person. Schlesinger has reported one case of horizontal oscillation and a few other observers have noted the same phenomenon. It consists of a see-saw oscillatory movement of from 40 to 60 vibrations a minute; when a persistent forceful attempt is made to close the lids, the opposite eye participates in the movement. The explanation is as difficult as that for ordinary nystagmus.

How Should the Paroccipital Fissure Be Represented in Fissural Diagrams?

DR. BURT G. WILDER, Ithaca, N. Y.: Commonly this and the parietal fissure are interpreted and represented as, respectively, the occipital and horizontal components of the intraparietal fissural complex. In apes and monkeys, young and adult, they are always continuous; the fetal conditions are unknown. In the human fetus they always commence independently and remain separate in about 40 per cent. of hemicerebrums, but unite sooner or later in the other 60 per cent. In many, perhaps most, of the cases of superficial continuity the original isthmus may be recognized as a more or less deeply submerged vadum or shallow, and it is a fair question whether cases in which the fissure at this point is less than one-half the greatest depth at either side should not be regarded as cases of separation rather than of continuity. Superficial continuity is two or three times as common as separation on the left side, but on the right separation is more common, about 55 per cent. In the light of existing knowledge, I conclude that fissural diagrams should include the dorso-caudal aspect of this region, with continuity of the two fissures on the left and separation on the right; when only one lateral aspect is shown the fissures should still be separate, but there should be a statement as to the conditions in the lower primates and in the human fetus and average adult.

Dreams as a Diagnostic and Therapeutic Aid

DR. B. ONUF, New York: Diagnostic aid may be obtained from the study of the amalgamation, or mixture of two or more different characters into one which occurred in a dream; also by noting the reversal of rôles played by different characters of real life as it occurs in dreams. Assistance in treatment of certain conditions may be secured by suggesting a dream to take place in a hypnotic or posthypnotic condition. For example, in case of a woman who had an aversion to beans and sweet cabbage which appeared to be purely psychic it was suggested that she dream in a hypnotic state that she was eating these articles with great relish. The result was that it had temporarily the desired end.

Other Papers Read and Specimens Exhibited

"Distribution of Encephalic Hemorrhages," by Dr. S. D. W. Ludlum, Philadelphia; "Exhibition of Lantern Slides Illustrating Pathologic Conditions," by Dr. M. Allen Starr, New York; "Clinical Report of a Case of Sarcoma of the Motor Area of the Left Hemisphere," by Dr. C. Eugene Riggs, St. Paul, Minn.; "Two Cases of Tumors of the Pons," by Dr. Philip Zenner, Cincinnati; "Mongolian Idiocy," by Dr. W. N. Bullard, Boston; "Case of Subcortical Auditory Aphasia with Description of the Anatomic Lesion," by Dr. Albert M. Barrett, Ann Arbor, Mich.; "Illuminated Glass Reconstructions of Brains," by Dr. Adolf Meyer, New York; "Contribution to Our Knowledge of the Idiopathic Otalgias and Their Surgical

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Treatment," by Dr. I. Pierce Clark, New York; "Case of Primary Degeneration of the Pons, Cerebral Peduncles, Medulla, and, to a Less Extent, of the Cerebellum, Associated with Primary Degeneration of the Cortico-Spinal Tracts, with Autopsy," by Drs. T. H. Weisenburg and S. D. Ingham, Philadelphia; "A Study of the Zoster Zone of the Geniculate Ganglion of the Facial and the Jugular Ganglion of the Vagus," by Dr. J. R. Hunt, New York.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting Held at Philadelphia, June 3-5, 1909

(Concluded from page 320)

Prevention and Treatment of Sequels of Perineal Prostatectomy

DR. JAMES E. MOORE, Minneapolis: Perineal prostatectomy is a life-saving operation, but a grave one, and should not be undertaken lightly. It is accompanied by a mortality rate of a little over 6 per cent. and over 17 per cent. of the operations are either complete failures or are followed by some sequel that makes the operation far from satisfactory. Owing to the age and bad condition of these patients there must be a mortality rate. The nature of the operation is such that complications and sequels are bound to occur, but at the present time the mortality rate is too high and the sequels too common. According to the latest statistics 7.4 per cent. of these operations are failures, but in competent hands the patient should always experience sufficient relief to justify the operation, though he may not be completely cured. When a patient continues to suffer pain and tenesmus after the operation it is usually due to a pocketed bladder, diseased kidneys, or an incomplete operation. The prostate is an important sexual organ, and its removal by any route or method is sure to have a decided effect on the procreative powers of the patient. Owing to the reticence and untruthfulness of patients it is impossible to state how often this sequel follows, but it is certain that it occurs so frequently that every patient who is comparatively young in years should have this possible contingency stated to him before the operation is performed. Injury to the rectum is probably the most frequent complication, often causing death, and when a patient survives he is liable to have a urethro-rectal fistula. Unskilful use of fingers, downward pulling by retractors and too tight packing with gauze are the usual causes, and by guarding against these causes this should be avoided. When the rectum is torn it should be repaired immediately. This will often fail but succeeds often enough to justify the effort. Stricture is a more common sequel than is generally believed, and is due to extensive removal of the prostatic urethra. We expect injuries to the urethra from other causes to result in stricture, and there is no reason why it should not follow this operation. Enough of the upper wall of the prostatic urethra should be preserved to secure an unbroken mucous surface extending from the bladder to the meatus. Extensive dissection of the perineum, especially when cross cuts are made, is conducive to stricture. Projecting portions of the urethra are sometimes left which constrict the flow of urine by acting as valves. Dribbling or incontinence is an occasional sequel of perineal prostatectomy and is due to injuries to the neck of the bladder and to the compressor urethræ muscles. Instruments introduced into the bladder to draw the prostate down should be used with the utmost care, lest they injure the neck of the bladder. The compressor urethræ is the important sphincter and should be preserved by entering the prostatic rather than the membranous urethra. The treatment of incontinence when once established seems to be hopeless. Perineal fistula is a rare sequel and is usually due to the deposit of lime salts, the removal of which relieves the condition. Epididymitis is an occasional sequel, but is usually of little consequence beyond the discomfort it causes, and is very often due to the injudicious passing of sounds.

Suprapubic Prostatectomy

DR. ARTHUR DEAN BEVAN, Chicago: Splendid results have been obtained by performing both the suprapubic and perineal operations, and considering the ages of the patients on whom these operations have been done the mortality is low. Suprapubic enucleation of the prostate has the widest field of usefulness. All things considered, the cure is more complete by the suprapubic than by the perineal route. The suprapubic is less dangerous and less formidable than extensive perineal dissection. No injury is done to the musculature or perineum by the suprapubic route; there is little danger of injuring the rectum, and little probability of stricture or fistula following.

Discussion on Prostatectomy

DR. A. J. OCHSNER, Chicago: He who has done prostatectomy both perineally and suprapublically a number of times must be impressed with the great ease with which the prostate can be enucleated from above. I have removed a large number of prostates by the perineal route, and a number by the suprapubic, and have been impressed with the simplicity and ease with which the operation can be done suprapublically.

DR. ALEXANDER HUGH FERGUSON, Chicago: My first 25 prostatectomy patients were operated on by the suprapubic route. Of this number I lost eight. I dislike to return to that method. I now resort to the perineal route. One can operate on almost any kind of enlarged prostate successfully through the perineum. If accurate statistics were collected, it would be found that the mortality is twice as high by the suprapubic as by the perineal route.

DR. JOSEPH RANSOHOFF, Cincinnati, Ohio: The mortality from the suprapubic operation can be greatly reduced if we make perineal drainage by means of a puncture from above.

DR. MAURICE H. RICHARDSON, Boston: I have seen many surgeons operate for the removal of prostates, but never saw one who could see what he was doing to the urethra. Speaking as an anatomist, I have never been able to tell whether I was tearing the urethra to pieces or not when operating perineally or suprapubically. Other surgeons have told me the same thing. The mortality comes from the advanced age of patients and not from the operation *per se*.

DR. S. STILLMAN, San Francisco: I have a decided preference for the suprapubic operation when the urine is healthy; when the urine can not be rendered healthy, the mortality from the suprapubic or perineal operation can be overcome by following a suggestion which has been given to the surgical profession by Sir William Macewan.

DR. A. PRIMROSE, Toronto: My experience has been confined almost entirely to the suprapubic route. Infection of the pelvic cellular tissue is the cause of mortality in some cases in which the suprapubic route has been resorted to. It seems feasible to remove the prostate by the transperitoneal route in some cases, and, if necessary, establish perineal drainage.

DR. JOHN B. MURPHY, Chicago: I operated on the prostate first by the perineal route, and then the suprapubic. Finally, from an experience of 123 cases I found I could take out the small, firm, hard prostate more easily and safely from below; while the large, thick, juicy prostate I could remove more easily and with greater safety to the patient from above.

DR. LEONARD FREEMAN, Denver, suggested a method of controlling hemorrhage in connection with the suprapubic operation.

DR. JAMES MOORE: I expect in five years from now to hear Dr. Bevan read a paper on the complications and sequels of suprapubic prostatectomy. Dr. Murphy stands on solid ground in that he fits the operation to the case in hand, and does not try to make every case fit one particular operation.

DR. A. D. BEVAN: The evidence is conclusive in favor of the suprapubic operation from the standpoint of completeness of the cure and the freedom from complications.

One Hundred and Thirty-One Consecutive Cases of Fibroid Tumors of the Uterus Demanding Operation

DR. ARCHIBALD MACLAREN, St. Paul, Minn.: When should a fibroid tumor of the uterus be operated on? When it commences to increase in size or to cause symptoms. I think with Richardson that the same rule should be followed as in ovarian cysts or in appendicitis in the interval; but that a small subperitoneal tumor need not be removed if it is not increasing in size. It is not always possible to be certain that

a given tumor is uterine and not ovarian in origin; the usual error is to diagnose a small ovarian tumor as a fibroid, on account of its smooth, hard solid feel. The subject of this paper is the last 100 consecutive hysterectomies for fibroid disease and also the myomectomies, 31 in number, which have been performed during this same period. The question of first importance is the age of the patient. A young woman should always have myomectomy, if possible. After a myomectomy the tumor may reform or other small growths, which were too deeply buried in the uterine wall or too small to be palpated, may increase in size, cause a return of the symptoms and necessitate a second operation. This has only occurred three times in my total experience of over 60 myomectomies. Myomectomy has been done during pregnancy 4 times with one miscarriage. I would not advise the removal of a uterine tumor in a pregnant uterus which was producing no symptoms. In regard to the mortality, there have been 5 deaths in the 131 cases, or 3.8 per cent.; 3 per cent. in the series of 100 hysterectomies; and 2 deaths in the myomectomies, making 6 per cent. This looks like an unjustifiable mortality for myomectomy, but as both were accidental deaths in no way due to the myomectomy, they ought not to be charged to this operation. The first was due to the giving way of the catgut purse-string suture about the stump of the appendix, which had just been removed. The second death was probably due to the leaking of a gall bladder which had been opened and drained through a stab wound, several gallstones having been found at the time of the operation for the removal of a fibroid.

One of the principal dangers of myomectomy, as well as hysterectomy, is postoperative hemorrhage. The gradual formation of a hematocele, which occasionally follows either operation should be carefully watched for; I have been in the habit of putting in vaginal drainage at the time of the operation when there was any difficulty in preventing oozing. And twice after myomectomy I have made a vaginal section on the third day, opening up and draining such hematomata with the most gratifying results. In my earlier work I lost 2 patients in whom the pus in the cul-de-sac was due to the infected, broken-down blood clot which had caused the fatal septic peritonitis which was not discovered until the autopsy. To the recognition and drainage of these accumulations of blood more than to any one thing do I ascribe my improved results over a few years ago, when I used to find them at the postmortem. The danger of a fibroid tumor producing a suppurative pelvic peritonitis is considerable. In the 100 hysterectomies, 3 came to me with pelvic abscesses complicating the tumor, either due to a perforative appendicitis or to the necrosis of the tumor, or to compression of diseased appendages. Supravaginal amputation has been my operation of choice in performing hysterectomy, and only in malignant disease or suspected malignancy have I reverted to complete removal of the uterus, and for two reasons: First, because it is a less dangerous operation in my hands; and second, because I have never seen a fibroid tumor grow in the stump of the cervix after a supravaginal amputation. Large sized catgut for the vessels, No. 3 or 4, is the best ligature material; or No. 2 double. It is awkward for tying the uterine arteries deep in the pelvis and much greater force has to be used than would be necessary on the surface, so the ligature must be larger and stronger. It is always wiser to cut the uterine arteries beside the cervix before picking them up, for they lie very close to the ureter. The only time that I ever injured the ureter was in one of my earlier operations when the uterine artery was ligated *en masse* before cutting the artery.

DISCUSSION

DR. MAURICE H. RICHARDSON, Boston: I have had a large experience in operating for the removal of fibroid tumors of the uterus, and I feel that there is a greater danger attending myomectomy for the removal of multiple tumors than hysterectomy. If you are going to give a patient a most safe procedure in a case of multiple fibroids of the uterus, it is better to do supravaginal amputation. This opinion is based on personal experience after many years of operating on these growths.

Surgery of the Large Intestine

DR. WILLIAM J. MAYO, Rochester, Minn.: Anatomically the large intestine is a connected whole, but embryologically and physiologically it can readily be divided at the splenic flexure into two well-defined parts. The proximal half is derived from the mid-gut and is an important part of the nutritive system as it absorbs about half of the fluids and 10 per cent. of the solids. The descending colon and the sigmoid are derived from the hind-gut, have an antiperistaltic motion, and act as a fecal storehouse. In the large intestine lymph drainage follows the arterial supply, but the lymphatics are not numerous and in the sigmoid are very sparse. Mobilization of the large intestine for operation is most important, and can be readily accomplished by cutting the outer peritoneal fold, which does not contain important structures, where it is reflected to the abdominal wall and lifts the gut from its bed. In this way the large intestine can be drawn outside the abdominal incision and the cut ends easily approximated after extensive resections. The inner leaf of the mesentery is very long, extending practically to the midline, and contains the arteries, nerves and lymphatics. After mobilization the arteries should be tied and divided at their origin, and the entire mesentery with the fat and gland cleanly dissected from the deep structures. The right inferior angle of the duodenum must be identified and separated in operations about the ascending colon and hepatic flexure. The ureters are attached to the peritoneum after crossing the common iliac arteries, and must be isolated, especially on the left side, to prevent injury. If a neighboring organ, such as the small intestine, stomach, bladder or uterus is adherent, it should be coincidentally resected, providing the disease is still local. In cancer of any part of the cecum, ascending colon, or hepatic flexure, all the large intestine proximal to the disease should be removed with at least six inches of the ileum, and an ileocolostomy performed between the proximal ileum and transverse colon. In cancer of the transverse colon, splenic flexure, descending colon and sigmoid, union must be made between the two segments of the large intestine, not so safe a union as that between the ileum and colon. It can be made end-to-end if sufficiently covered by peritoneum, otherwise end-to-side, or lateral, where the peritoneum is sound. If obstruction is marked, the three-stage operation of Mikulicz-Paul is advisable. In low sigmoid cancers the combined abdominal and perineal operation is best. In fleshy males the posterior, and in debilitated females the Quenu-Tuttle operations give good results in low sigmoid tumors. One hundred resections were done, with 12 deaths; for cancer, 61 times, with 8 deaths. Twenty-four cases were carcinoma of the cecum and ascending colon, with 3 deaths; transverse colon, including the hepatic and splenic flexures, were removed for carcinoma 7 times, with 1 death; descending colon and sigmoid were excised for carcinoma 30 times, with 4 deaths. For benign disease 39 times, including inflammatory disease, tuberculosis, diverticulitis, etc., 4 deaths.

Resection of the Sciatic Nerve

DR. KENNETH A. J. MACKENZIE, Portland, Ore., exhibited a patient with molluscum fibrosum, who developed, first, a tumor of the ulnar nerve, which was removed by another surgeon. Subsequently the patient developed a tumor of the sciatic nerve, which grew slowly at first, but after traumatism grew rapidly. Severe pain was transmitted to the foot from the pressure caused by the tumor. Operation consisted in removing the sciatic nerve *in toto*, with good result. Patient walks well considering that the nerve was entirely removed and the nerve supply cut off from the groups of muscles that were involved.

Operative Treatment of Fractures

DR. JOHN B. WALKER, New York, reported six cases in which he operated for the relief of deformity following fractures, with good results.

Rare Hernias

DR. WILLIAM B. COLEY, New York, reported a case of strangulated retroperitoneal hernia of the intersigmoid fossa, and one very rare (probably unique) case of interparietal ventral hernia at McBurney's point.

Suggestions for the Operative Correction of Syphilitic and Other Deformities of the Nose

DR. JOHN B. ROBERTS, Philadelphia: I call attention to the importance of the reconstructive surgery of the external nose. I state that the cosmetic improvements possible are not fully appreciated by medical men or by the public at large. The inherent difficulty in these operations is obtaining and maintaining sufficient projection of the reconstructed organ and preventing cicatricial closure of the nostrils. The early recognition of syphilitic lesions of the nasal bones and cartilages and the prompt institution of efficient antisyphilitic treatment will prevent the occurrence of many conspicuous disfigurements. Blows on the nose in childhood often cause dislocation of the nasal cartilages and bones. These lesions are untreated because of negligence in examination immediately after the injury. The frontal method is probably the best for total rhinoplasty. Flaps taken from the cheeks do well in partial rhinoplasty. Brachial flaps may sometimes be used with advantage. Portions of cartilage or periosteum from other regions of the body may be used to give rigidity to the tissues transferred to the nasal region. Paraffin injections into the subcutaneous tissues are sometimes used as an adjunct. Loss of the cartilaginous external nose below the nasal bones is probably best repaired by Keegan's frontal method. Nélaton's frontal method, which consists in incorporating a portion of costal cartilage in the frontal flap, is valuable when the bony nasal bridge is missing. My method of repairing the sunken nose of syphilis with flaps from the cheeks and midfrontal region is described as a successful operation. Suggestions for repairing irregular deformities of various kinds are made in the paper.

A Method of Combining Exploration and Decompression for Cerebral Tumors Which Prove to Be Inoperable

DR. HARVEY CUSHING, Baltimore: The usual osteoplastic method of exploration of the cerebral hemispheres for a tumor, which, after exposure, proves to be inoperable, is usually transformed into a palliative or decompressive measure by the removal of the osseous layer of the resected flap. This frequently leads to undesirable consequences, owing to the unnecessarily extensive protrusion which may occur when the brain under tension is protected by scalp alone. In these cases the bone flap may be preserved and a sufficient hernia, under the protection of the temporary muscle, be provided for, through the removal, while the flap is temporarily resected, of the area of bone which underlies the temporal muscle. Thus the advantage of the usual subtemporal decompression can be combined with the more extensive cortical exploration permitted by a temporary osteoplastic resection.

Unusual Case of Gunshot Wound of the Brain

DR. JOSEPH RANSOHOFF, Cincinnati, Ohio: This was a case of gunshot wound of the brain from a 32-caliber rifle. The patient was shot in the right temple in May, 1899. The immediate left-sided hemiplegia which followed the injury disappeared within a year. Three years later general convulsions supervened, the attacks coming on every three or four months without any focal point of origin being in evidence. The *x*-ray showed the bullet split into three parts, one evidently in the zygomatic fossa, one in the temporal fossa, and the largest fragment just within the skull on a level with the cribriform plate and probably in or near the cavernous sinus. Later left-sided paralysis supervened gradually, but I did not see the case again while alive. Death ensued with coma in twelve hours after the onset of the acute symptoms, nearly ten years after the injury. The autopsy revealed an abscess in the right temperosphenoidal lobe with a small piece of the bullet firmly encapsulated in the abscess wall. The largest fragment shown by the *x*-ray had become innocuous and embedded in the cavernous sinus.

The following papers were also read: "Treatment of Tetanus," by Dr. W. W. Hutchings, Detroit; "The History and Microscopical Study of Fifty Consecutive Cases of Excision of the Thyroid," by Dr. Francis J. Shepherd and Dr. Charles E. Duval, Montreal; "Transplantation of Skin Flaps," Dr. J. M. T. Finney, Baltimore; "Sudden Death: A Study of Certain Cases Occurring During Physical Exertion or Psychic Shock," by Dr. John B. Blake, Boston; "Inequalities of the Right and Left Femora," by Dr. A. T. Bristow, Brooklyn, New York; "Vesico-Intestinal Fistula," by Dr. F. W. Parham, New Orleans.

Medicolegal

Right of Action of Woman Negligently Injured and Caused to Abort

The Court of Appeals of Kentucky holds, in Big Sandy & Cumberland Railroad Co. vs. Blankenship, an action brought by the latter party, that a negligent act, inflicting bodily injury on the plaintiff, a woman enceinte, whereby her child dies and is caused to be born prematurely, gives the woman the right of action against the wrongdoer for her injury, including the mental and physical suffering endured as a natural and proximate result of the injury to her person.

The cases of Tunnicliffe vs. Bay Cities Consolidated Railroad Co., 102 Mich. 624, and Hawkins vs. Front Street Cable Co., 3 Wash. 592, were cited as holding that a recovery by the mother against one negligently causing the death of the child in her womb and its premature birth is not allowed. But the question decided in the first-named case, the court says, was that the loss of the society and prospective earnings of the child is not a proper element of damages in an action by a married woman for injuries which resulted in a miscarriage.

In the case at bar the instruction of the trial court did not allow a recovery for any sentimental suffering not involved in, and attendant on, the physicial pain endured by the plaintiff and accompanying the injury, and the miscarriage caused by it. While it may be true that no scales have yet been invented by the law for weighing purely sentimental grief, it is also true that none are known to the law which separate mental suffering caused by physical injury into its various elements and apportion some as actionable and others as nonactionable.

Distress of mind caused by and accompanying a physical injury is an element of damage which the law compensates. It is no more true that all minds do not suffer alike than that all bodies are not equally susceptible to pain. While physiologically all pain may be said to be mental as the law uses the term, it is recognized that pain is physical when a nerve is impinged. But there is always some mental pain. The latter grows out of the former, is produced by it, and is the former extended as a physiologic consequence. It would be as impossible in speculation as in fact to say how much of the mental suffering was the cooperation of the nerves of the brain with those of the body, and how much was psychologic.

Hence the law attempts no separation, but allows a recovery for all the suffering, both bodily and mental, which is the direct result of and accompanies a physical injury. If the injury inflicted is continuing or develops in stages, as from a fracture to septicemia, and thence amputation, it is deemed one injury, and all pain caused by and accompanying it throughout its several stages is an element of the damages which may be recovered. So if a bodily injury is inflicted on a pregnant woman, which directly or in natural consequence results in a miscarriage, the latter event is deemed a part of the original injury.

The other case cited and relied on by the defendant company (Hawkins vs. Front St. Cable R. Co.) goes further than this court understands the authorities to justify, and further than this court is willing to follow. It was there held that proof that an unborn child died and was prematurely delivered because of negligent injuries to its mother is not sufficient to establish her right to recover substantial damages for the injury. The court held that if the plaintiff showed "impairment of health and suffering growing out of the death and premature birth of her child, which would not have attended its birth at the usual time, either alive or dead, and also that the child's death is attributable to a negligent injury which she received," she could recover for her suffering and im-

paired health. "But," the court added, "she must show the injury by appropriate evidence, and the mere proof that the child died, and was prematurely delivered, as a result of the accident, would not be sufficient to presume substantial damage therefrom." The reasoning of the Washington Supreme Court in that case is that the pregnant woman must in time have delivered the child, and that as the pain of its birth was inevitable that it was prematurely brought about could not alone be actionable; that, in order to allow the woman to recover for the miscarriage caused her, she must have suffered pain, or ill health, which would not have followed at the usual time of the birth of the child dead or alive. Whether the pain of childbirth was greater in the one instance than in the other was not shown. Whether the mother would have suffered more pain at a subsequent time, or whether her health would then have been impaired, this court fails to see how it could have been shown.

But it is this court's opinion of the law that the woman has the right to bear her child in Nature's way and time. When by negligent violence to her person she is caused to give it premature birth, whether it be dead or alive, or whether the pain attending its birth be greater or less than at the ordinary season, she is damaged. She is made to suffer physically and mentally at a time when she otherwise would not have to suffer. The great function of her sex has been interfered with. We all know that Nature penalizes heavily infractions of its laws on this score. Such an event can not be unimportant to the woman either as it affects her body or mental equilibrium.

If one enters my house tortiously and disturbs my peace, the law gives compensation. If by noises, odors or unsightly objects he tortiously interferes with my free enjoyment of my premises, he is liable to me. If he negligently causes my cow to abort her calf, he is liable for the injury to the cow and the loss of the calf. If, then, he negligently injures the body of a woman, disturbing and deranging Nature's functions so that the fetus of her child is destroyed, and she caused to abort it, why may not she have legal complaint against the wrongdoer for her bodily suffering, and her mental suffering accompanying and growing out of it? If in the collision she had had a tooth knocked out, there would be no doubt of her right to action, although had she lived she would have lost the tooth in every probability; and maybe have suffered as much or more pain from it and in having it pulled than she experienced in having it knocked out by the defendant's negligence.

An award of $500 damages is referred to as "very modest," and judgment therefor affirmed.

Current Medical Literature

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Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

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1 Enzyme Treatment for Cancer. W. S. Bainbridge, New York.
2 *Study of Tremors. M. Neustaedter, New York.
3 Gastric Surgery of the Present Day. R. C. Coffey, Portland, Ore.
4 Treatment of Specific Urethritis (Gonorrhea) in the Male. J. R. Hayden, New York.
5 A New Sphygmomanometer. J. Rudisch, New York.
6 *Simple Method for Preparing a Useful Stain. R. W. King, Las Animas, Colo.

2. **Tremors.**—Neustaedter has devised an instrument for recording the sort of movements in each tremor, so that they may be differentiated. His apparatus consists of a kymograph, a tambour of the Marey type, with a string attached to the lever and fastened by a hook to a piece of rubber adhesive plaster, and a recording tambour with a paper writing point. The two tambours are connected by a rubber tube. The affected part is placed in a comfortable position and the adhesive strap attached to it. The author has made 328 tremograms of all the diseases in which tremor exists, and finds that the different types of tremor may be distinguished by the records they make. The difference between tremors is of kind, not of degree, and every form of tremor is distinctive of a group of diseases. No definite relation exists between one form of tremor and another. The frequency of movements has no bearing on the character of the tracing. There is no material difference between the movements of the two sides of the body.

6. **Simple Method of Preparing a Useful Stain.**—King describes a method for preparing a stable blue stain which is used in making a modified Romanowsky staining fluid. The following is the working formula:

	gm.	or	c.c.
Methylene blue (Grubler's)	1	or	gr. xv
Sodium acid carbonate (C. P.)	.5		gr. vij
Sodium acid sulphate (C. P. crystal)	7		gr. viij
Distilled water, q. s.			

Dissolve the methylene blue and the sodium acid carbonate in 100 c.c. of distilled water. Transfer to a porcelain dish (500 c.c.) and evaporate to dryness directly over the flame, a wire gauze being used to distribute the heat. The solution should be allowed to boil gently until from one-half to two-thirds of the water has escaped. The heat is then somewhat reduced, evaporation hastened, and spurting prevented by occasionally tilting and rotating the dish so as to cause the fluid to flow on the sides of the dish. When perfectly dry, and almost cool, add the acid sodium sulphate previously dissolved in from 10 to 15 c.c. of distilled water. Rotate and tilt the dish to bring this acid solution in contact with all the stain in order to insure complete neutralization of the sodium carbonate present. When effervescence ceases, again evaporate to complete dryness over the flame. Remove the stain by means of a small spatula and keep as free from moisture as possible.

Boston Medical and Surgical Journal

July 15

7 *Pathologic Physiology of Intracranial Tumors. H. Cushing, Baltimore.
8 Aural Complications in the Exanthemata. C. R. C. Borden, Boston.
9 *Lactic Acid Bacteria in Chronic Suppurative Nasal Conditions. J. L. Goodale, Boston.
10 Specimen of an Encapsulated Brain Abscess: Congenital Occlusion of the Cartilaginous Canal. H. P. Mosher, Boston.
11 *Anesthesia for Adenoid and Tonsil Operations. A. H. Miller, Providence, R. I.

7. **Intracranial Tumors.**—Cushing says that contrary to the common belief, brain tumors are of frequent occurrence, and possibly there is no disease in which the symptoms are more often overlooked or incorrectly interpreted. For the sake of successful palliative or curative measures, a precocious diagnosis is necessary, and a careful clinical study of all suspected cases at an early stage, with a more intimate knowledge of the local and general pressure phenomena, will tend toward this desired goal. A more widespread familiarity with the early appearance of the neuroretinal edema and congestion is needed, and also the understanding that this condition is merely a stage in the process of choked disk. Inversion or interlacing of the boundaries of the color fields, heretofore regarded as pathognomonic of hysteria, has been found to be a fairly constant early phenomenon in tumors.

One recognized characteristic of the brain under pressure is its tendency to herniate through a cranial defect, and as there is normally an opening at the foramen magnum a certain degree of protrusion is usually present there. In the presence of such a condition, the withdrawal of the cerebrospinal fluid from the spinal meninges by a lumbar puncture is often hazardous, as it may tend to a sudden wedging of the bulb in the opening, with anemia and paralysis of the vital centers.

The pituitary body proves to be one of the most important of the ductless glands. It not only may be the primary seat of a new growth, but in the case of intracranial tumors elsewhere, particularly when they are accompanied by hydrocephalus, its function may secondarily become disturbed in ways which are clinically recognizable. The conducting paths in the brain are more often affected by simple pressure from tumors than by actual destruction, and the removal of the growth or simple relief from pressure may often lead to a surprisingly rapid restoration of function. For an accurate focal diagnosis a thorough, early examination is often necessary, for with an advancing lesion symptoms at a distance

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may greatly confuse the clinical picture. A considerable percentage of patients who present themselves for surgical treatment are so nearly blind that a study of the visual fields, which should be one of the most helpful localizing signs, is precluded. From a histologic point of view the classification of brain tumors is most unsatisfactory, and the general behavior and manner of growth of many of them does not conform with accepted views. Some gliomata may be definitely encapsulated and favorable for operative removal, and many tumors of this supposedly malignant type may undergo cystic degeneration or gelatinous transformation.

9. **Lactic Acid Bacteria.**—During the past four months Goodale treated a series of cases by cultures of bacteria generating lactic acid. These cases included conditions of atrophic rhinitis with ozena, and chronic suppuration of the various sinuses. The preparation was sent twice a week from the laboratory, in 2-oz. bottles, and a sufficient quantity was given to the patient to use in an atomizer. Fresh material was given them every week, with instructions to keep it in a cold place, and to observe aseptic precautions so far as possible in handling it. The patients were told to cleanse the atomizer with alcohol before introducing the culture fluid, and in the case of atrophic rhinitis with crust formations to remove the crusts as completely as possible before employing the spray. Goodale is of the opinion that a distinct effect has been produced by the culture in some cases of ozena, characterized by generalized crust formation. The results appear to be comparable to those produced by argyrol. It remains to be seen, however, whether more than a temporary effect is produced. In localized chronic suppurative sinusitis, attended by hypertrophy and polyp formation, no effect could be detected.

11. **Anesthesia for Adenoid and Tonsil Operations.**—Miller's apparatus has been used in nearly 1,000 tonsil and adenoid operations and provides for the continuous etherization of such cases without in any way interfering with the operation. It consists of a vaporizer which is worked by a foot pump and of several accessory implements which may be connected with the vaporizer by a long rubber tube. The features of this apparatus are:

1. It will vaporize 15 oz. of ether in an hour and will readily provide sufficient anesthesia in an adult with the face uncovered for a laparotomy of an hour's duration.
2. Neither the inlet nor the outlet tube dips into the ether. For this reason it is impossible to force liquid ether back into the patient's air passages.
3. The atomizer of the vaporizer sprays directly into the outlet tube. Thus the vaporizer is very sensitive to changes in the air pressure supplied to it.
4. The length of the outlet tube is such that when the ether spray reaches the top of the tube it has been converted into a vapor, imperceptible except from its odor.

The accessories which complete this apparatus are a mouth gag which has an ether tube incorporated in one of its jaws, a mouth tube similar to the tube of the Junker apparatus, a soft rubber nasal tube and a double nasal tip. For the adenoid operation the mouth gag or the double nasal tip is selected.

New York Medical Journal

July 17

12 Microscopic Diagnosis of Intralaryngeal Growths, from a Practical Standpoint. J. Wright, New York.
13 *Diagnosis of Intestinal Tuberculosis. J. Walsh, Philadelphia.
14 *Remissions in General Paralysis: Three Cases, including Postmortem Examination. M. J. Karpas, New York.
15 Pneumococcus Arthritis. A. Strickler, Philadelphia.
16 *Chloroform Dropper Ampoules. F. H. McMechan, Cincinnati.
17 Reflex Mechanism and Clinical Significance of the Important Reflexes. S. P. Goodhart, New York.
18 One Hundred and Fifty Consecutive Laparotomies. E. R. Secord, Brantford, Canada.
19 Acute Veronal Poisoning. J. L. Eckel, Buffalo.

13. **Intestinal Tuberculosis.**—According to Walsh the symptoms diarrhea, abdominal pain, tenderness and rigidity mean very little or nothing in the diagnosis of intestinal tuberculosis. The presence of an ischiorectal abscess in an advanced case adds to the probability of intestinal ulceration. The diagnosis of intestinal tuberculosis can not be made with the slightest degree of certainty from our present known symptoms, and since the condition carries with it such an unfavorable prognosis, in order to reassure the patient, the nurse, and the physician himself the diagnosis should not be made so that the patient will have a better chance for hopeful treatment.

14. **Remissions in General Paralysis.**—Karpas reports three cases of general paralysis in which remissions occurred. Two cases were of the tabetic and one case was of the cerebral form. Two patients were decidedly elated and grandiose and one showed a definite depression with general slowness in action and thought. Remission in the first case lasted one year, in the second case about two years, and more than five months in the third case. It is interesting to note that in none of them heredity or psychotic traits were demonstrable, and, moreover, the remission did not occur at the time of infection or suppuration. Syphilis could not be satisfactorily ascertained, but doubtless it could be excluded. In the second patient there were suspicious signs of luetic infection, such as sterility and history of nocturnal headaches. The disease picture, save for the remission, presented no anomalous traits; in each instance the diagnosis of general paralysis could be made without reservation.

16. **Chloroform Dropper Ampoules.**—The dropper ampoule, described by McMechan, is a glass container, the end of which elongated into a cone-like projection, turned at the tip and ending in a bead-sealed capillary tube. On the shoulder of this container is a second capillary projection similarly sealed. The ampoule holds about thirty grams of chloroform, an amount seldom exceeded in the ordinary run of narcoses for single operations. The container is marketed in strong cardboard boxes fully protected from breakage, thus making it a handy package for the emergency or obstetrical bag. To use the dropper ampoule it is only necessary to break off the bead-like tips of the capillary endings. This is most readily accomplished by previously nicking the neck of the tube with an aluminum file supplied in the container, or by clipping off the bead tips with a scissors. The elongated end of the container thus becomes the dropping point and the capillary ending of the shoulder bubble the air inlet. The pressure of the index finger on the capillary ending of this shoulder bubble regulates the influx of air, and the frequency of the drip may be retarded or increased at will. Also the angle at which the container is held plays an important part in regulating the rate at which the chloroform may be made to drop.

Lancet-Clinic, Cincinnati

July 10

20 Tonsils as Portals of Infection. W. Mithoefer, Cincinnati.
21 Hydriatic Treatment of Cardiac Lesions. C. Pope, Louisville.
22 Protracted Birth of Second Intrauterine Twin. B. M. Ricketts, Cincinnati.
23 Vaginal Injuries and their Rôle in Puerperal Infections. W. D. Porter, Cincinnati.

Northwestern Lancet, Minneapolis

July

24 Surgery of the Kidney and Ureter. R. E. Farr, Minneapolis.
25 Notes on a Trip Abroad. W. A. Jones, Minneapolis.
26 Case of Exstrophy of the Bladder. A. T. Mann, Minneapolis.
27 Epidemic Infantile Paralysis. D. M. Strang, Northfield, Minn.

International Clinics, Philadelphia

Vol. II, Nineteenth Series

28 Immunization Against Typhoid. H. Shoemaker, Philadelphia.
29 Mineral Waters in Syphilis. C. de la Carrière, Paris, France.
30 Diagnosis and Treatment of Pneumonia in Children. L. Fischer, New York.
31 Psychasthenia. B. C. Loveland, Syracuse, N. Y.
32 Tuberculous Serofibrinous Pleurisy and its Treatment. H. B. Allyn, Philadelphia.
33 Hyperchlorhydria. G. M. Niles, Atlanta, Ga.
34 Congenital Familial Splenomegaly with Chronic Acholuric Jaundice. F. P. Weber, London, Eng.
35 Diabetes. E. F. Wells, Chicago.
36 Congenital Idiopathic Dilatation of the Colon (Hirschsprung's Disease). C. Daniel, London, Eng.
37 Surgical Pneumothorax as Treatment for Phthisis. F. Dumarest, Paris, France.
38 Present Status of the Cammidge Reaction. E. H. Goodman, Philadelphia.
39 Treatment of Abscess in Hip Disease. H. Schwatt, Philadelphia.
40 Kraurosis Vulvæ. R. F. Woods, Philadelphia.
41 Diagnosis of Pelvic Diseases in Women. C. W. Hibbit, Louisville.
42 Intraocular Tumors. L. Buchanan, Glasgow, Scotland.
43 Refrigeratory Facial Paralysis: How it is Produced. H. O. Reik, Baltimore.
44 Anorectal Fistula and its Treatment. B. Asman, Louisville.
45 Psychometric Methods in Diagnosis, Prognosis, and Treatment of Cerebral Disorders. T. A. Williams, Washington, D. C.
46 Perithelioma Testis. F. G. Bushnell, London, and H. N. Fletcher, Brighton, Eng.
47 Pathogenesis of Spontaneous Cerebral Hemorrhage. A. G. Ellis, Philadelphia.

Journal of Infectious Diseases, Chicago

June

48 *Susceptibility of Gophers, Field Mice, and Ground Squirrels to Plague Infection. G. W. McCoy, U. S. P. H. and M.-H. S.

49 *Immunity of San Francisco Rats to Infection with *B. Pestis*. G. W. McCoy, U. S. Public Health and Marine-Hospital Service.

50 *Immunologic Observations in Ulcerative Cystitis Caused by Pseudodiphtheria Bacillus. E. C. Rosenow, Chicago.

51 **Bacillus Bulgaricus*. P. G. Heinemann and M. Hefferan, Chicago.

52 Bactericidal Substance in Leucocytes. T. Watabiki, Tokyo, Japan.

53 *The Tubercle Bacillus in Milk. G. McConnell, St. Louis, Mo.

54 *Cultures of Bacilli Isolated from Milk. A. F. Hess, New York.

55 Characteristics of the Streptococci Found in Scarlet Fever. B. van H. Anthony, New York.

56 An Epidemic Among English Sparrows Due to *Bacillus Cloacæ*. T. H. Glenn, Chicago.

57 *Opsonic Index in Acute Articular Rheumatism. R. Tunnicliff, Chicago.

58 So-Called Agglutinoids. E. C. L. Miller, Detroit.

59 *Bacterial Integrity of Celloidin and Parchment Membranes. D. D. Todd, Chicago.

60 *Rocky Mountain Spotted Fever in the Rabbit. L. Gomez, Manila, P. I.

61 *Influence of the Ingestion of Dead Tubercle Bacilli on Infection. M. J. Rosenau and J. F. Anderson, Washington, D. C.

62 *Relative Proportion of Bacteria in Top Milk (Cream Layer) and Bottom Milk (Skim Milk), and its Bearing on Infant Feeding. J. F. Anderson, Washington, D. C.

48. Plague Susceptibility and Immunity.—McCoy concludes that gophers are not sufficiently susceptible to infection with the plague bacillus to be of any importance from an epidemiologic point of view; that field mice are about as susceptible as rats, but coming in contact with man but rarely, they probably will not be a serious factor in the spread of plague. Ground squirrels, on the other hand, are of the utmost importance in plague epidemiology.

49. Id.—A considerable immunity to plague was found among the wild rats of San Francisco, especially the old ones, and this immunity is held to be natural in most cases.

50. Ulcerative Cystitis.—A pseudodiphtheria bacillus was found constantly in the urine and predominated in the smears from the scrapings of the ulcers. The serum of the patient had a high agglutinating power on this bacillus, and the phagocytic power of the leucocytes varied in a manner specific for this bacillus. Injection of killed bacteria increased the opsonic power of the serum for the bacteria injected and the phacocytic activity of the patient's leucocytes appeared to increase after the injections and more when in their own serum than when in normal serum.

51. Bacillus Bulgaricus.—This bacillus appears to be widely distributed in nature, occurring normally in human feces, in the feces of cows and horses, in a variety of sour and aromatic foods, in normal saliva and gastric juice, in various fermented milks, in ordinary milk and in soil. It grows best in milk or media composed of whey, peptone and glucose. In milk it may produce more than 3 per cent. acidity, the acid being composed approximately of 6 per cent. volatile acid and 94 per cent. lactic acid (optically inactive). It is suggested that the presence of this bacillus in normal saliva may cause dental caries on account of its acid producing powers. It is self-evident that the presence of *B. bulgaricus* in human feces after ingestion of milk fermented by it, is not proof of its permanent acclimatization in the digestive tract, as it may be present normally.

53. Tubercle Bacilli in Milk.—McConnell's investigations indicate that the greater the number of sources from which milk is derived the greater the likelihood of infection by tuberculosis, and that commercial pasteurization, by the flask method is sufficient to destroy the tubercle bacillus.

54. Id.—Hess found tubercle bacilli 17 times in 107 samples of milk retailed from 40-quart cans in New York City. Of 8 strains studied minutely, 7 were found to be bovine in character, and one was found to belong to the human type. This is the first time that tubercle bacilli of the human variety have been isolated from milk, and indicates another source of danger from contamination by tuberculous persons.

57. Opsonic Index in Acute Articular Rheumatism.—The opsonic index for the so-called *Micrococcus rheumaticus* (Beattie, Poynton and Paine) and *Streptococcus pyogenes* follows the same course in acute articular rheumatism. When the joints become involved and the temperature rises, the index falls below normal, to rise again above normal as the joints and symptoms generally improve. The opsonic index, therefore, does not help to differentiate *M. rheumaticus* from *S. pyogenes*. The results of the study indicate that streptococci play an essential part in acute articular rheumatism.

59. Bacterial Permeability of Membranes.—Contrary to the accepted view, celloidin and parchment membranes are not impermeable to the passage of all bacteria. Inasmuch as the typhoid bacillus, among other bacteria, may escape through such membranes, the accepted results of experiments on the longevity of the typhoid bacillus in water require re-testing.

60. Rocky-Mountain Spotted Fever.—Gomez says that the rabbit is susceptible to the virus of Rocky-Mountain spotted fever as cultivated for a long time in the guinea-pig. The disease is milder in its symptoms than that produced in the monkey and guinea-pig. The blood of rabbits at the height of the disease is ineffective for guinea-pigs. It has been possible to transmit the disease from one rabbit to another through six animals successively. The blood of rabbits which have recovered contains bodies which protect against the disease, such bodies being largely or entirely absent from the blood of normal rabbits.

61. Abstracted in THE JOURNAL, June 12, 1909, p. 1949.

62. Bacteria in Top Milk and Bottom Milk.—It was found that top milk sometimes contains from 10 to 500 times as many bacteria per c.c. as the mixed milk. This may explain why infants sometimes do not thrive on modified milk made from top milk. When milk is centrifuged the great mass of bacteria goes up with the cream, a much lesser number being carried down with the sediment. The skim milk contains fewer bacteria per c.c. than the cream or sediment layers. Centrifugally raised cream contains more bacteria per c.c. than gravity raised cream from the same milk.

Long Island Medical Journal, Brooklyn

July

63 Heredity. W. A. White, Washington, D. C.

64 Salpingo-Otitis Media. S. B. Allen, Brooklyn.

65 Chronic Constipation in Infants and Children. Le G. Kerr, Brooklyn.

66 Intestinal Obstruction Due to Meckel's Diverticulum. R. W. Westbrook, Brooklyn.

67 Two Cases of Eclampsia, Clinically Suggestive of the Newer Pathology. O. P. Humpstone, Brooklyn.

68 Pyelitis of Pregnancy: Results of Postural Treatment and Renal Lavage. P. M. Pilcher, Brooklyn.

Archives of Internal Medicine, Chicago

June

69 *Experimental Production of Chronic Nephritis in Animals by the Use of Uranium Nitrate. E. C. Dickson, San Francisco.

70 **The Treponema Pallidum*. B. White and O. T. Avery, Brooklyn, N. Y.

71 *Production of Edema. R. M. Pearce, New York.

72 *Protein Metabolism in Addison's Disease. C. G. L. Wolf and H. C. Thatcher, New York.

73 *Mild Unclinaria Infections. C. C. Bass, New Orleans.

74 Current Ideas on Aphasia. A. W. Holsholt, Stockton, Cal.

75 *Diagnostic Value of Hemolysis in Cancer. R. Ottenberg and A. A. Epstein, New York.

76 *Influence of the Soft Tissues of the Arm on Clinical Blood Pressure Determinations. T. C. Janeway, New York.

77 *Effect on Heart of Experimental Obstruction of the Left Coronary Artery. J. L. Miller and S. A. Matthews, Chicago.

78 *Serum Disease. G. H. Weaver, Chicago.

79 *Disease of the Optic Nerve as an Early or Earliest Symptom of Multiple Sclerosis. A. Gordon, Philadelphia.

80 Anaphylaxis. J. G. Anderson and M. J. Rosenau, Washington, D. C.

69. Chronic Nephritis in Animals.—By the use of uranium nitrate Dickson was able to produce in animals lesions which closely resemble those found in subacute and chronic diffuse nephritis in man. A long continued mild intoxication with this drug led to the production of a "subchronic" (Weigert) interstitial nephritis which appeared to be progressive. A series of several attacks of subacute uranium nephritis led to extensive fibrotic changes in the kidney which in some cases went on to the stage of a granular atrophy. In a certain number of cases this condition was associated with polyuria. Dickson also found that a single severe attack of acute parenchymatous nephritis may be followed after some weeks by a more or less severe fibrosis, which in some cases goes on to extreme granular atrophy. In other cases, however, the recuperative power of the kidney is such that only a moderate fibrosis results.

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70. The Treponema Pallidum.—From the review of certain staining methods, and from the observations made in the bacteriologic examination of syphilitic and non-syphilitic lesions, White and Avery reach the following conclusions:

1. The staining method as described by Schereschewsky appears to be the most satisfactory one for general use.
2. The presence of the *Treponema pallidum* in a suspected lesion may undoubtedly be considered as establishing the specific nature of the infection.
3. A negative result does not necessarily exclude the presence of syphilis. In this event further examinations should be made, and, when these lead to negative results a proper period of time should be allowed to elapse in order that the appearance of the secondary symptoms may establish the diagnosis.

In the clinic of the House of Relief (Brooklyn) the finding of the treponema has been considered as affording a positive diagnosis. The treatment when begun immediately on the report of a bacteriologic diagnosis has led to gratifying results.

71. Production of Edema.—Pearce made an experimental study of the relative etiologic importance of renal injury, vascular injury and plethoric hydremia. In uranium nephritis the ease with which edema is produced when an excess of water is administered illustrates the importance of hydremia in the causation of edema. The influence of vascular injury is not very plain in the uranium experiments, but is conclusively shown in those in which ricin, venom and arsenic were administered in the course of a chromate nephritis; in all of these the influence of hydremia is also evident. A consideration of all the results recorded appears to demonstrate conclusively that, under the conditions of these experiments, plethoric hydremia and vascular injury have equal value with nephritis in the production of edema, and that none of these three factors acting alone, and no combination of two acting together, is sufficient to cause edema. The experiments with nephrotoxic immune sera point to the possibility that substances, presumably endotheliotic and capable by vascular injury of aiding in the production of edema, may be contained in serum.

72. Protein Metabolism in Addison's Disease.—Wolf and Thacher studied the nitrogen and sulphur metabolism in a patient who had Addison's disease and who was on a purin-free diet. The desamidating capacity of the patient (capacity to reduce amid nitrogen) and his capacity to transform the sulphur of the cystin group into sulphuric acid were absolutely comparable to that of normal individuals. A considerable degree of acidosis was observed which is not accounted for by any factor which was found in this examination. The endogenous metabolism of the patient, as represented by the kreatinin and uric acid outputs was below that of normal subjects.

73. Mild Uncinaria Infections.—Bass employs a method for detecting the ova of the uncinaria which he considers better than any other. A quantity of feces is well diluted with water, 1 in 10, and strained through gauze to get rid of coarse particles. This is centrifugalized, the fluid poured off, the centrifuge tube refilled and centrifugalized again until all the diluted feces have been used. The precipitate is rewashed several times with water as long as anything can be washed out. To know just how long to continue the centrifugalization is the secret of success. One must learn just what is the proper time for his centrifuge. It should be carried out at high speed and just long enough to throw the eggs to the bottom. Too long centrifugalization defeats the purpose. With a centrifuge running 3,500 revolutions a minute, ten seconds at first, when there is much matter, and then four to five seconds is usually the proper time. The centrifuge must be steady. This gets rid of most of the very small things, those having flat rough surfaces and those having a specific gravity about that of water. Now the precipitate should be washed before using calcium chlorid solution of a specific gravity up to 1050. This disposes of everything having a specific gravity below 1050, and the precipitate may now be examined. There frequently remains a considerable amount of material, much of which is appreciably heavier than the eggs and of such a character that it interferes much with their recognition. This material may be removed by centrifugalizing with a solution sufficiently heavier than the eggs. A solution with a specific gravity of 1,250 is very satisfactory. In such a solution the eggs go to the top. With an appropriate pipette one may remove a few drops from the surface and examine, or, what is still better, pour off some of the top fluid containing eggs, dilute with water sufficiently to bring the specific gravity below 1050, and centrifuge again. The precipitate will now contain most of the eggs contained in the original amount of feces, and may all be put on one slide and examined. One such slide contains as many eggs as could be found in several hundred ordinary slide preparations of feces. With this technic, Bass was able to recover 96 per cent. of 1,000 eggs put in one ounce of feces, 94 per cent. of 100 eggs in the same quantity, and 60 per cent. of 10 eggs in one ounce.

75. Hemolysis in Cancer.—As the result of a careful investigation, Ottenberg and Epstein arrive at the conclusion that hemolysis can not at present be relied on as an aid in the diagnosis of cancer.

76. Blood-Pressure Determinations.—Janeway records two cases which he thinks demonstrate clearly that an influence of the soft parts of the arm on clinical blood-pressure determinations does not exist, and that discrepancy between clinical blood-pressure estimations and direct manometric readings from the same limb, if found, must be explained either by resistance of the arterial wall or by errors in the readings.

77. Obstruction of the Left Coronary Artery.—Miller and Matthews found that either main trunk of the left coronary artery may be ligated without seriously disturbing the heart. In the cases reported by the authors, ligation of the descendens 25 mm. or less from its orifice, after previous ligation of the circumflex, always caused cardiac standstill. The left ventricle stopped beating first. When either of the two main branches of the descendens is ligated and the animal is allowed to recover, no evidence of cardiac disturbance is apparent for a period varying from one to three months, when very acute symptoms of cardiac insufficiency develop which rapidly prove fatal. The previous administration of strophanthus permits much more extensive ligation of the coronary arteries without serious consequences.

78. Serum Disease.—Weaver prefers the terms "serum disease" and "serum reaction" to other expressions which have been used in speaking of the symptoms provoked by injections of alien serums. The reaction is dependent on the proteins of the serum and bears no relation to the antitoxin or other antibodies contained in the serum. In general, the serum of one species of animal is toxic when injected into an animal of another species. The occurrence of a serum reaction after the injection of antidiphtheria horse serum is determined in part by the susceptibility of the individual and the toxic properties of the particular serum administered, but in largest measure by the total quantity of serum employed. Precipitated serum calls forth reactions in about the same proportion of cases as does whole serum in corresponding bulk.

The interval between the injection and the appearance of the reaction varies from a few minutes to three weeks or more. The majority of reactions appear before the eleventh day. The length of incubation is dependent on the number of injections and the quantity of serum. When a primary injection, after an interval of ten days or more, is followed by a secondary one, the subsequent reaction is apt to be intensified and to occur after a shorter incubation period. Serum reactions following secondary injections correspond to the phenomena of anaphylaxis in experimented animals which may be provoked by various serums and also by many other substances of a protein nature. While the administration of antidiphtheria horse serum is usually devoid of danger, in rare instances persons who have been rendered hypersensitive by previous injections or in some hitherto unknown manner may be made alarmingly ill and may even die as the result of such injections.

Certain precautions should be observed in the injection of horse serum. When there is a history of asthma, etc., the possible danger should be stated distinctly before serum is administered. For the protection of other members of the profession who meet similar experiences all fatal cases should be reported. The rare occurrence of unfavorable results from the use of antidiphtheria serum should not deter the physican from urging its administration in every case of diphtheria.

79. **Eye Symptoms in Multiple Sclerosis.**—In the last seven years 56 cases of multiple sclerosis have come under Gordon's observation in the clinics of various hospitals and in private practice. They all presented the cardinal classical symptoms of the affection. These 56 cases presented clinically nystagmus, staccato speech, intention tremor, exaggerated patellar and Achilles tendon reflexes on one or both sides; some of them also presented a history of apoplectiform seizures and vertigo. Twenty-three patients showed changes in the optic nerves. Of these 23 Gordon excludes 5, in whom the optic neuritis and atrophy were the earliest or the only sign of the disease; 18 presented changes in the papillæ, together with other symptoms of multiple sclerosis. In how many of these cases the changes in the optic nerves developed first could not be determined, as they came under observation when the entire symptom-group was present. Close questioning, however, revealed the fact that some indefinite disturbance of sight in one eye first attracted the attention of 8 of these 18 patients.

As to the changes themselves, the 18 patients presented the following at the time of the examination: Optic atrophy was present in 11 patients, in 8 of whom it was unilateral (on the left), in 2 more marked in the left eye than in the right, and in 1 bilateral and equal. In the last 3 the optic atrophy always began on one side, but was rapidly followed by the involvement of the other eye. In the 8 patients with unilateral involvement the condition remained confined to the same side for a long time, but finally the other eye became involved. In the remaining 7 patients of the series retrobulbar neuritis was present at the beginning for a period of from 2 to 5 months and optic atrophy developed later. Vision in all the 18 was at first very much impaired. Scotomata were present, more on one side than on the other. In the 11 with unilateral optic atrophy scotomata were conspicuous on both sides. The central vision was preserved in the majority of the 18 cases. The acuity of vision was not in direct proportion to the involvement of the optic nerves.

The chief interest of the subject lies in the optic nerve changes as a very early or as the only symptom of multiple sclerosis. Gordon has had 5 such cases during the last 7 years. In the first 3 the involvement of the optic nerves with disturbance of vision appeared first, and many months later the classical symptoms of multiple sclerosis began to develop. In the fourth case, if it is one of multiple sclerosis, the eye symptoms are the only signs of the disease. Three and one-half years have elapsed since visual disturbances made their first appearance. So far, the islets of sclerosis are confined to the cerebrum. In the fifth case, in addition to the optic atrophy which had been in existence seven years, there are only two physical symptoms of multiple sclerosis.

Journal Tennessee State Medical Association, Nashville

June

81 Squint and its Treatment. W. Dotson, Gallatin.
82 Surgery of the Thyroid. R. M. McCown, Knoxville.
83 Cancer of the Breast. G. R. West, Chattanooga.
84 Amebic Dysentery and Appendicostomy. J. F. Bates, Nashville.
85 Membranous Croup. G. E. Vaughan, Clarksville.
86 Leukemia. R. J. McFall, Cumberland City.

Washington Medical Annals

July

87 Hygiene and Sanitary Science. G. M. Kober, Washington.
88 Life of Thomas Sydenham, M.D. J. B. Nichols, Washington.
89 *Five Hundred and Fifty Cases of Typhoid in Children. S. S. Adams, Washington.
90 Perplexing Complications Found in Gallstone Surgery. I. S. Stone, Washington.
91 Pneumococcus Leptomeningitis. D. S. Lamb, Washington.
92 Stricture of the Urethra. H. A. Fowler, Washington.
93 Keloid of the Labium Majori. D. P. Hickling, Washington.
94 Epithelioma of the Jaw. E. A. Balloch, Washington.

89. **Typhoid in Children.**—Of the 550 cases cited by Adams, 420 patients were treated during July, August, September and October. There were 296 boys and 254 girls; 23 were under two years, 77 at 11 years of age, which represents the minimum and maximum ages. As early as 1872 the oyster was recognized as a carrier of the bacilli in one case. Perforation was found in 17 cases, all being of the ileum; 28 deaths resulted from hemorrhage. Rose spots were present in 133 cases, but, as about 20 per cent. of the cases occurred in negroes, the percentage is not accurate. Epistaxis was found in 4.9 per cent., in one case being fatal. Convulsions occurred in 16 and post-typhoidal insanity in 9. The fever is described as being mild in 264; moderately severe in 132; severe in 142; irregular in 2; sudoral in 10. There were 48 relapses, 4 cases having 2 each. There were 65 deaths, a rate of 11.8 per cent., a number of the children having died within 24 hours after admission. From 1872 to 1882 the mortality was 30.76 per cent.; from 1882 to 1891 it was 20.33 per cent.; from 1892 to 1903 it was 11.1 per cent.; from 1903 to 1908 it was 7.9 per cent. Various methods of treatment have been pursued during the time stated, and of late liberal feeding is assumed to shorten convalescence and prevent post-typhoidal complications.

Cleveland Medical Journal

June

95 Treatment of Chronic Intestinal Autointoxication. F. Forchheimer, Cincinnati.
96 Significance of Coordinated Reflexes in Differentiating Between Functional and Anatomic Diseases of the Nervous System. C. F. Hoover, Cleveland, Ohio.
97 The Medical Expert Witness. D. C. Westenhaver, Cleveland.
98 Medical School Inspection in Cleveland. J. H. McHenry, Cleveland.
99 Diagnosis and Treatment of Brain Tumor (continued). A. Peskind, Cleveland.
100 Nitrous Oxid and Oxygen Anesthesia in Comparison with Ether Anesthesia. G. W. Crile, Cleveland.

Journal Cutaneous Diseases, New York

July

101 Pseudoxanthomatous Lymphangioma. W. S. Gotthelf, New York.
102 Principles and Clinical Application of the Wassermann Reaction. H. F. Swift, New York.
103 *Eruptions Occurring after Abdominal Operations. F. J. Shepherd, Montreal.
104 The *Spirochæta Pallida:* Its Easy Demonstrability; Brief Review of Its History. U. J. Wile, New York.

103. **Eruptions after Abdominal Operations.**—Shepherd, in an attempt to discover the cause of the skin eruptions seen so often after abdominal operations, found that these occurred most often in patients who were given an enema of soap suds made from common yellow soap, but if castile soap were substituted no eruption followed. This was corroborated by the fact that in exchanging the yellow for the castile soap in other patients who had these eruptions it was found that the yellow soap produced rashes, whereas the castile soap did not. It was then found that the cheap and common yellow soap contained a considerable quantity of resin, and to this Shepherd believes we must attribute the cause of many of the rashes seen after abdominal section.

Journal Advanced Therapeutics, New York

July

105 Association of Altered Metabolism with Circulatory Changes and Treatment. B. S. Price, New York.
106 *Electricity in the Relief of Pain. F. H. Humphris, London, Eng.
107 So-Called Chronic Rheumatism or Septic Arthritis, Caused by Urethral Strictures and Various Post-Stricture Infections. J. W. Torbett, Marlin, Tex.
108 Morton Wave Current in Diseases of the Prostate Gland. B. H. Jackson, Scranton, Pa.
109 All too Frequent Cytolysis of Cancer. J. A. Riviere, Paris.

106. Abstracted in THE JOURNAL, Nov. 28, 1909, p. 1891.

Western Medical Review, Omaha

June

110 Progress of Medicine. L. M. Shaw, Osceola, Neb.
111 Function of the Laboratory in Clinical Medicine. A. D. Dunn, Omaha.
112 Centennial Anniversary of the First Ovariotomy. P. Findley, Omaha.

Bulletin Johns Hopkins Hospital, Baltimore

July

113 *Pellagra in Maryland. W. S. Thayer, Baltimore.
114 *Osteoplastic Carcinoma of the Prostate. G. Blumer, New Haven, Conn.
115 *Relative Aortic Incompetency of Muscular Origin. J. M. Anders, Philadelphia.
116 Old-Time Medical Education. J. J. Walsh, New York.

113. **Pellagra.**—Thayer reports a case of pellagra seen in the vicinity of Baltimore which presented several peculiar features which, taken in connection with the impalpability of the thyroid and the dryness of the skin suggested the possibility of hypothyroidism. It was accordingly determined to start treatment with thyroid, beginning with three 2-gr. (0.13 gm.) doses of desiccated thyroids a day. The change in the patient's condition was immediate and remarkable. On the very

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day that the treatment was begun the patient passed for the first time a quiet night. For several weeks this dose was continued, and then for several months the patient took from 4 to 5 grains (0.26-0.32 gm.) daily. The improvement was rapid, the mental, cutaneous and gastrointestinal symptoms entirely cleared up, and since then the patient has remained well. She has found that whenever she has tried to stop the use of the thyroid, of which she is now taking 2 grains (0.16) a day, a sense of heaviness and dulness has returned, so that Thayer is convinced of the necessity of continuing the treatment. From the effects of the thyroid, together with the symptoms above referred to, Thayer suggests that it is not impossible that this is an instance of hyperthyroidism; the mental symptoms might well be associated with this condition; but the cutaneous, the buccal, the gastrointestinal manifestations were so striking that it was difficult to discard the suspicion of the existence of pellagra.

114. **Osteoplastic Carcinoma of Prostate.**—Blumer summarizes his paper as follows:

1. Carcinoma of the prostate gives rise to metastases in the bones in a much larger proportion of cases than any other form of carcinoma; probably in at least two-thirds of the patients in whom the disease is allowed to run an unobstructed course.

2. The clinically apparent bone metastases may be single. If occurring in the long or flat bones they may be taken for primary bone tumors and removed as such. If occurring in the vertebræ they frequently give rise to spastic paraplegia.

3. There is a diffuse form of bony involvement without evident deformity of bones in which intense pain in the bones, often associated with spinal stiffness and accompanied by the general signs of a malignant growth, is the prominent symptom.

4. Symptoms pointing to the urinary tract as the original site of the disease are lacking in perhaps one-third of the patients.

5. In all instances where a male patient, especially one over sixty, presents himself with an apparently primary tumor of a bone or with signs of paraplegia, or with bone pains of obscure origin, a complete examination of the urinary system is indicated, even though no symptoms of urinary disorder be present. Needless to say, the mammary gland, the thyroid, and the region of the adrenals should also be explored.

6. The high percentage of cases of bone metastasis in this form of tumor, and the relative rapidity with which it may take place, make it imperative that carcinoma of the prostate should be recognized and removed at as early a date as possible.

115. **Relative Aortic Insufficiency.**—Anders places the cases of muscular relative incompetency at the aortic orifice in three well-defined divisions: (a) cases of muscular and nervous origin that supervene in the course of fibrous myocarditis and other less serious conditions of the myocardium, independently of valvulitis or advanced organic changes in the the aorta; (b) cases secondary to chronic valvulitis affecting the mitral segments with failure of the left ventricle, and (c) cases occurring in the course of or following acute infective diseases due to the action of the toxins on the myocardium. Cases of purely nervous origin may also be encountered occasionally. He emphasizes the fact that functional incompetency of the aortic segments due to dilatation of the left ventricle is not sufficiently recognized.

Journal New Mexico Medical Society, Albuquerque

July

117 Milk Sickness. G. K. Angle, Albuquerque.
118 Alcoholism—Acute and Chronic. W. S. McCormick, Albuquerque.
119 Surgical Empyema. D. H. Carna, Albuquerque.
120 The Meddlesome Doctor. J. H. Bradshaw, Orange, N. J.
121 Trachoma. F. H. Tull, Albuquerque.
122 *Sterilization of Criminals and Other Defectives by Vasectomy. W. T. Belfield, Chicago.
123 Traumatic Epilepsy of 24 Years' Standing Relieved by Operation. M. K. Wylder, Albuquerque.

122. Published in the *Chicago Medical Recorder*, and abstracted in THE JOURNAL, April 10, 1909, p. 1211.

Providence Medical Journal

July

124 *Medical Progress During the Past Thirty Years. F. B. Fuller, Pawtucket, R. I.
125 Appendicitis Complicating Pregnancy. C. O. Cooke, Providence.
126 Infant Feeding. W. H. Jordan, Providence.

124. Abstracted in THE JOURNAL, July 10, 1909, p. 138.

Military Surgeon, Washington, D. C.

July

127 Career of the Army Surgeon. R. Park, Buffalo.
128 Diseases of the Soldier and their Prophylaxis. E. L. Munson, U. S. Army.
129 Account of the Ravages of Scurvy in Lord Anson's Fleet During a Voyage Around the World, 1740-1744; Notes Concerning British Naval Hygiene at that Time. A. Farenholt, U. S. Navy.
130 Is the Poor Physical Development of Southern Recruits Due to Uncinariasis? W. P. Chamberlain, Jackson Barracks, La.
131 Biographic Sketch of Azel Ames, M.D. J. M. Swan, Philadelphia.
132 Diseases and Injuries of Ear Occurring Among Troops During War or Peace Maneuvers—Their Prevention and Treatment. J. J. Kyle, Indianapolis.
133 Penetrating Injuries of the Brain—Recovery. W. A. Gills, Richmond, Va.

California State Journal of Medicine, San Francisco

July

134 Melancholia and Other Manifestations of the Depression Psychosis. C. Quinan, San Francisco.
135 Backache (continued). C. M. Cooper, San Francisco.
136 Fallacies in the Weaning of Infants. A. Brown, San Francisco.
137 Fat as a Disturbing Factor in Infant Feeding. L. Porter, San Francisco.
138 Arthritis Deformans. L. D. Mead, San Francisco.
139 Passive Motion. S. J. Hunkin, San Francisco.
140 The Malaria Zone. D. F. Ray, Stockton.
141 Local Anesthesia. V. G. Clark, San Diego.
142 Our State Board Examination. H. D'A. Power, San Francisco.
143 Demonstration of Enlarged Spleen. W. F. McNutt, San Francisco.
144 Pulmonary Tuberculosis as Affected by Certain Other Diseases. J. C. King, Banning.

Mississippi Medical Monthly, Vicksburg

July

145 Prophylaxis of Insanity. J. M. Buchanan, Meridian, Miss.
146 Use and Abuse of the Nitrites. P. W. Rowland, Oxford, Miss.
147 Nervous Reflexes and Complications Due to Pregnancy: Their Causes and Treatment. I. H. C. Cook, Hattiesburg.

Louisville Monthly Journal of Medicine and Surgery

July

148 Disease of the Labyrinth. K. L. Stoll, Cincinnati.
149 Psoriasis. J. V. Shoemaker, Philadelphia.
150 Anesthesia, with Report of 2,000 Administrations. T. K. Van Zandt, Louisville.
151 Value of Chlorin in the Production of Immunity against Tuberculosis. F. C. Wilson, Louisville.

Southern California Practitioner, Los Angeles

June

152 Obstruction of the Bowels. T. A. Stoddard, Santa Barbara.
153 Fraternal Insurance. C. W. Pierce, Los Angeles.
154 Plea for Conservative Treatment of the Uterus and Adnexa. L. D. Johnson, Whittier.
155 Rubeola, Rubella, and Scarlatina: Prophylaxis and Treatment of Typical Cases. S. A. Adams, Los Angeles.
156 Centralization of Power—A Necessity in Health Work and Sanitation. D. J. Frick, Los Angeles.
157 Need of Fumigation of Second-Hand Clothing and Articles. L. M. Powers, Los Angeles.

Philippine Journal of Science, Manila

February

158 *Atoxyl in Treatment of Malaria. J. J. Vassal, Nhatrang, Annam.
159 Methods of Studying the Structure of the Central Nervous System. R. B. Bean, Manila.
160 Dengue in Indo China: Epidemic on Board *Manche*. J. J. Vassal and A. Brochet, Nhatrang, Annam.
161 Filtration Experiments on the Virus of Cattle Plague with Chamberland Filters "F." E. H. Ruediger, Manila.
162 *Suppression of a Cholera Epidemic in Manila. A. McLaughlin, U. S. Public Health and Marine-Hospital Service.

158. **Atoxyl in Malaria.**—Atoxyl used alone, according to Vassal, does not exercise a specific action in malaria. Associated with quinin, it is capable of bringing about a rapid improvement in health and of hastening convalescence. In cachexia and chronic forms of malaria, quinin with atoxyl appears to be more efficacious than quinin alone. Atoxyl in large doses is sometimes borne with difficulty and may even give rise to accidents.

162. This article appeared in full in THE JOURNAL, April 10, 1909, p. 1153.

Journal Oklahoma State Medical Association, Muskogee

June

163 State Medicine. J. M. McComas, Elk City.
164 *Cancer of the Female Breast. J. N. Jackson, Kansas City, Mo.
165 Ileocolitis or Dysentery. H. M. Williams, Wellston.

164. **Cancer of Breast.**—Jackson emphasizes the fact that at least 90 to 95 per cent. of all tumors of the breast are malignant, and no possible intelligence can proclaim which of the remaining 10 per cent. will remain benign. There is no known cure for any tumor of the breast, benign or malignant, except through surgical removal. From 25 to 50 per cent. of cases

of breast cancer are permanently cured by radical surgical removal. With early diagnosis this could be raised to 80 per cent. Every tumor of the breast, therefore, should be considered malignant and treated as such at the very first moment of its detection, unless incision has proved it benign, in which instance, local excision should at least be insisted on. To trifle with tumors of the breast is, therefore, practically nothing short of criminal.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 3

1 Advisability and Method of Operating in Acute Inflammation of the Appendix from the Third to Sixth Day. G. M. Mouilin.
2 *Electrical Reactions of Bacteria Applied to the Detection of Tubercle Bacilli in Urine by Means of a Current. C. Russ.
3 The Opsonic Test. F. R. Walters.
4 *Multiple Aneurisms of the Aortic Arch and Thoracic Aorta. H. E. Jones and T. H. C. Benians.
5 *Routine Use, by the Open Method, of a Mixture of Chloroform and Ether. F. W. Hewitt and J. Blumfeld.
6 *High-Frequency Currents and Their Medical Application. C. F. Bailey.
7 Multiple Intracranial Tumors with Involvement of Both Auditory Nerves. G. N. Biggs.
8 New Method for Attempting to Secure Sphincteric Control after Colostomy. C. Ryall.
9 Unusual Case of Extradural (Peri-Sinus) Abscess of Otitic Origin and Its Relation to Melancholic Stupor. J. A. Jones.
10 Abscess of the Pancreas. S. S. Pring'e.
11 Chronic Middle-Ear Suppuration with Involvement of the Labyrinth. M. Yearsley.

2. Electrical Reactions of Bacteria.—By much experimentation Russ found that certain bacteria, under the influence of a suitable current, congregate at one or other electrode. The congregation varies with the nature of the electrolyte, and is probably due to an affinity between the products of electrolysis and the bacteria. It occurs with killed as well as with living bacteria. The congregation by electrical currents affords a means of collection and examination, and was found of greater detective capacity in certain of the experiments undertaken than was the centrifuge. The differences in behavior of various bacteria are such as to suggest the possibility of utilizing the method for purposes of specific discrimination, but in this particular the data hitherto obtained are insufficient to warrant definite statements.

4. Multiple Aneurisms of Aorta.—The patient in this instance complained of: 1. A pulsating swelling over the inner end of the left clavicle of about the size of a small hen's egg. This swelling was first noticed three months previously. It was very painful and tender and rapidly increasing in size. 2. Slight cough and shortness of breath. 3. A coldness and numbness of the extremities, especially the hands and feet, which he could not keep warm. 4. Hemoptysis; small clots occasionally; no further large quantity was expectorated after the hemoptysis at the commencement of the illness. 5. Inability to use his right eye. This was found to have been present since birth and was on account of a "congenital ptosis." The tumor had expansile pulsation, was dull on light percussion, and gave a sense of fluctuation. The skin over it was slightly reddened. The area of cardiac dulness was slightly increased, but resonance was present between this and the dulness over the tumor. The heart sounds were normal. Anemia was marked and the superficial veins of the upper part of the thorax were slightly dilated. The pressure of the carotid pulse was 108. No pulsation was palpable at either wrist; the right temporal was palpable, but not the left. The carotid pulses were markedly unequal and asynchronous; no tracheal tugging was present, nor was there any laryngeal paralysis. The voice was somewhat hoarse, but the cough was not "brassy." No glands were felt. The hands and feet were rather cold. There were crepitations present at both apices, while at the right apex the breath sounds were bronchial in character and at one spot whispering pectoriloquy was present. There were proptosis and divergence of the right eye, but the eye movements were free. The pupils were small, but unequal, and reacted both to light and accommodation. The fundi and media were normal. There was no history or sign of past syphilis. The patient was extremely temperate and had never done any really hard manual labor. The temperature was raised to 100° F. at night. The urine was normal.

Skiagrams taken on admission showed three distinct buigings of the thoracic aorta: (1) in the descending aorta; (2) at the junction of the transverse and descending arch; and (3) of the ascending arch near the spot where the right innominate artery takes its origin.

The interesting features of the case are: 1. The absence of any of the usual determining circumstances of aortic aneurism—viz., syphilis, alcohol, hard work, etc., or of any evidence of a long-sustained high blood pressure. 2. The extraordinary tendency for clotting and attempts at spontaneous cure. Even when rupture took place and oozing commenced this stopped for a few days, a large clot forming, until the final more extensive rupture proved immediately fatal. 3. The old history of hemoptysis, evidently one of the dilatations (probably that of the descending arch) ulcerating into the trachea two years previously. The ulceration on the trachea was seen post-mortem, and, although old tubercle was present at the left apex, no extensive tuberculous process had invaded the lung, making it practically certain that the large sudden hemoptysis was of aneurismal origin. The spontaneous cure of the aneurism of the right side with cessation of symptoms followed two and a half years later by it again becoming patent after the appearance of the larger and more rapidly growing dilatation of the left side. 5. The multiplicity of the dilatations.

5. Chloroform and Ether Anesthesia.—The mixture employed by Hewitt and Blumfeld consists of 2 parts by volume of chloroform and 3 parts by volume of ether. The mask employed is essentially a Skinner's mask and consists of a wire frame, over which is stretched a single layer of thin flannel. The mask thus formed presents an oval opening 5 inches by 3 inches and is capable of close adaptation to the face. The vault of the mask is high enough not to touch the nose when its rim rests on the face. The size of the mask and the material with which it is covered are important details. In using the mixture a gradual process is followed. The mask is applied to the face, and, after a few breaths, the mixture is added, a few drops at a time. A regulating drop bottle is used capable of delivering the mixture in isolated drops, in a rapid series of drops, or in a continuous stream. During the first two minutes the mixture is poured on the mask in such small quantities at a time that there is never more than a quarter of the mask moist. From this time it is added more freely until, roughly speaking, in the case of men the whole surface of the mask, in the case of women three-quarters of the surface, and in the case of children one-half of the surface, is kept moist with the liquid. As a rule, at least four minutes pass between the beginning of the administration and the moment when the maximum quantity to be used is on the mask.

The cases in which the method has been employed include all the graver abdominal procedures. In age, patients have ranged from the infant of 14 months to persons over 80 years of age. Several patients were markedly alcoholic, others were asthmatic and orthopneic; one patient was suffering from pneumonia, and in this case oxygen was simultaneously administered through a tube passing through the mask. In a series of hospital cases the average amount of the mixture consumed was one ounce in 14 minutes; the least used was half an ounce in 22 minutes (feeble infant); and the most used was three and a quarter ounces in 30 minutes (fat alcoholic woman). Recovery takes place rapidly without any after-effects, provided, of course, that the patient has been properly prepared. In several cases there was vomiting once or more after recovery of consciousness. In practically all cases there was, 24 hours after operation, complete freedom from nausea. The method has been employed successfully in over 360 cases.

6. High-Frequency Currents.—Bailey directs attention to the fact that experiments on animals and plants, observations on human beings not founded on the individual experimentees' own statements, showed that there are four marked effects of electric energy produced, uncomplicated by chemical effects, by high frequency currents: (1) Increased cell activity, in-

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creased metabolism; (2) return of a locally inflamed tissue to its normal; (3) either general vascular dilatation or contraction, according to the particular method used; and (4) "inhibition," diminished sensory or motor excitabilty. So that where any of these effects is desired and where the remaining effects are not prejudicial, or can be very much diminished or abolished, high-frequency treatment may be of real value, and for these reasons has a prospect of considerable therapeutic use in the future.

British Medical Journal, London

July 5

12 Tedious Recovery from Illnesses. Sir D. Duckworth.
13 *Surgical Treatment of Rheumatoid Group of Joint Affections. R. Jones
14 Arthrotomy of Knee. C. B. Lockwood.
15 Aspects of Life-Insurance from Standpoint of the Medical Examiner and the Agent. A. G. Gullan.
16 Osteitis Deformans. R. M. White.
17 *Danger Arising from Use of Plated Instruments in Ophthalmic Operations. W. C. Rockcliffe.
18 Value of Expert Radiography and Cystoscopy in Detection of Obsolesced Tubercle in the Kidney. E. H. Fenwick.
19 Quinin Dermatitis. W. Gripper.
20 Strychnin Poisoning: Recovery. G. M. Blair.
21 Aortic Systolic Murmur: Prognosis and Treatment. C. W. Lawson.

13. Surgical Treatment of Rheumatoid Joint Affections.—Jones advocates more frequent surgical intervention to correct the deformities incident and subsequent to joint disease, and cites cases in support of his contention.

17. Danger of Plated Instruments in Ophthalmic Practice.—Rockcliffe cautions against the use of plated instruments in eye surgery because the plating may peel off and give rise to very serious complications. He reports a personal experience of this kind where, following a cataract extraction under ordinary conditions, an acute panophthalmitis developed, necessitating the removal of the eye. The instruments used during the extraction were inspected and the plating was found to be peeling off. Evidently the piece which caused the trouble and which was recovered from the anterior chamber, entered there during the iridectomy.

Clinical Journal, London

June 23

22 Short Circuits of the Lymphatics in Cancer of the Tongue, Breast, and Organs of Generation. C. B. Lockwood.
23 Treatment of Cardiac Pain. A. Morison.
24 Action and Conservative Vital Reaction, Especially in Regard to Idiosyncrasies. F. P. Weber.

Journal of Obstetrics and Gynecology, London

June

25 *Three Cases of Rupture of the Uterus Treated by Abdominal Hysterectomy. T. W. Eden.
26 *Complete Rupture of the Uterus. A. L. Smith.
27 Septic Thrombosis (Puerperal) of the Pelvic Vessels. W. B. Bell.

25. Rupture of Uterus.—Eden's views on the treatment of rupture of the uterus are summarized as follows:

1. Incomplete rupture of moderate severity, involving only the lower half of the broad ligament, may be treated expectantly by drainage or packing.

2. Abdominal section for exploration of the injury and arrest of hemorrhage will, as a rule, be required.

3. According to circumstances this may be followed (a) by packing and drainage; (b) by subtotal hysterectomy.

4. In most cases of extensive rupture, whether complete or incomplete, removal of the uterus is required.

5. In the less serious cases of extensive rupture not attended by serious bleeding, vaginal hysterectomy may be performed, but this operation has been practiced in comparatively few cases.

6. Suture of the rent is, in the present state of our knowledge, not to be recommended, except in the special circumstances mentioned above.

26. Id.—Smith reports 10 cases, 8 of which occurred in a hospital and constituted the total number of such cases seen during twenty years among 10,989 deliveries. The remaining 2 cases were seen elsewhere. In 8 cases the rupture occurred in the lower uterine segment. In 2 cases the upper segment was also involved. In one case not only was the retracted portion of the uterus ruptured as a direct result of the extension of the tear in the lower segment, but there was also another complete tear and several incomplete fissures in the upper segment. In 9 cases it was the posterior wall which gave way, the rupture occurring once on the right side, 4 times on the left and once in the mid-line. Unfortunately in 3 of the cases the notes do not definitely state the position of the rent. In only one case did the rupture occur through the anterior wall. The mortality was 90 per cent. In 2 cases death occurred so rapidly that no time was allowed for anything to be done.

Medical Press and Circular, London

June 23

28 Treatment and Diet in Infantile Gastroenteritis. L. Delmas.
29 Passive Hyperemia. R. A. Stoney.
30 Banti's Disease with Pulmonary Phthisis and Herpes—Death from Hemorrhage. A. Don.
31 Fleas as Transmitters of Plague. Professor Shiga.

Journal of Tropical Medicine and Hygiene

June 15

32 *Filarial Periodicity and Its Association with Eosinophilia. C. D. Whyte.

32. Filarial Periodicity and Eosinophilia.—Whyte conducted rather extensive investigations in this direction, and as the result of his findings he concludes that variations are found in different individuals in the maximum number of circulating filariae. In his series of cases the number varied from 8 to 143 per cm. Variations are also determined by the rate at which the filariæ emerge from and retire to the lungs and larger arteries. He also found that they do not appear in maximum numbers at midnight, but that, on the other hand, the number is often less at that hour than before and after. However, the time when the greatest number of organisms appear in the blood, though varying in different cases, is fairly constant in the same case. Finally, filariasis is associated with eosinophilia, and the degree of eosinophilia often corresponds with the number of microfilaria in the circulating blood.

Archives des Maladies du Cœur, etc., Paris

June, II, No. 6, pp. 321-382

33 *Action of Roentgen Rays on the Thymus. C. Aubertin and E. Bordet.
34 Megaloblasts, Normoblasts and Pycnoblasts; Relations between them and their Evolution in Chronic Myeloid Leukemia. H. Béclère.
35 Acute Lymphocyte Leukemia. H. Eschbach and J. Baur.
36 Case of Pulsus Alternans Induced by Digitalis. E. Guilleaume.

33. Action of the Roentgen Rays on the Thymus.—Aubertin and Bordet give illustrations of the microscopic findings in cats and rabbits, confirming the possibility of destroying or at least completely transforming the thymus by exposures to Roentgen rays. They found it possible to destroy the thymus by this means without altering the other organs in the mediastinum, and it is possible that radiotherapy may prove useful in treatment of a tumor in the thymus.

Lyon Chirurgical

June, II, No. 1, pp. 1-126

37 Painful Varieties of Congenital Dislocation of the Hip Joint. (Formes douloureuses de la luxation congénitale de la hanche.) G. N. Josserand and A. Rendu.
38 Astragalectomy in Treatment of Fractures of the Astragalus. G. Gayet.
39 Treatment of Cancer of Ampulla of Vater by Circular Resection of the Duodenum. G. Cotte.

Presse Médicale, Paris

June 19, XVII, No. 49, pp. 441-448

40 Experimental Study of Surgery of the Stomach. (Contribution expérimentale à la chirurgie de l'estomac.) A. Frouin.

June 23, No. 50, pp. 449-456

41 The Oosporoses. H. Roger.
42 *Disinfection from Prophylactic Standpoint. J. Courmont.

June 26, No. 51, pp. 457-464

43 Nodular Erythema and Tuberculosis. (Erythème noueux et tuberculose.) A. -B. Marfan.

42. Efficient Official Disinfection.—Comby recently stated that the contagious diseases at Paris do not seem to be kept under control now any better than of old, and the official disinfection service actually does more harm than good, as it merely lulls the people into a sense of false security. Courmont takes exception to his statement, declaring that the trouble is that the municipal disinfection is not properly carried out, as it is not based on the true principle of efficient disinfection, which is to watch over the patient from the onset and during the course of the disease and prevent the dissemination of contagion. He cites his own experiences in the department of the Rhône, where the disinfection service is admirably organized and efficiently arrests contagion. The main point is for the service to be notified of the case of con-

tagious disease as soon as possible, by telephone, not waiting for the mail. Then, also as rapidly as possible, by automobile, the disinfecting force repairs at once to the case, bringing bags, disinfectants, printed instructions, etc., and aiding the physician in controlling the contagion at this most critical moment. The first duty of the service is to rush to the patient and surround him with prophylactic measures; then, when the disease is over, to sterilize the contaminated bedding and clothing, and, thirdly, to disinfect the apartment. The disinfecting service is in charge of a trained and well-paid specialist, free from other duties, and he is obliged to supervise the disinfection, whether done by his force or by outsiders. A portable oven is most convenient for sterilization of bedding, etc., in country districts. Courmont does not regard the scarlet fever scales as contagious in themselves, although they may be the vehicle of the virus. He adds that measles should be dropped from the list of diseases requiring notification, as the contagion occurs before differentiation and the germ is not long-lived or resistant. The ideal prophylaxis is, of course, he says, for the patient to be taken at once to the contagious hospital as soon as the disease is diagnosed, and this is the rule in the Scandinavian countries, where rich and poor alike go at once to the hospital under these conditions. Until this becomes the rule in other countries the reliance must be on the municipal disinfection service. In conclusion he emphasizes anew that in hygiene every useless measure is dangerous, and that all such prophylactic measures should be reduced to the indispensable minimum.

Revue de Médecine, Paris

May, XXIX, No. 5, pp. 337-424

44 *Progressive Myopathic Atrophy. L. Landouzy and L. Lortat-Jacob.

45 *The Meninges in Scarlet Fever. (Infection méningée, réaction méningée et méningites scarlatineuses.) R. Benard.

46 *Pathogenesis and Symptomatic Importance of Paralysis of the Left Laryngeal Recurrent Nerve. II. (Paralysie récurentielle.) E. Guder and R. Dufour.

44. An article on this subject by the same author appeared in the *Bulletin de l'Académie de Médecine*, Feb. 23, 1909, and was abstracted in THE JOURNAL, April 3, 1909, page 1147.

45. The Meninges in Scarlet Fever.—Benard says that a simple reaction on the part of the meninges generally subsides, but the hemorrhagic and suppurative forms have been invariably fatal in the cases on record. Lumbar puncture is able to differentiate a scarlatinal meningitis when the symptoms may indicate either an incipient complicating meningitis or a malignant form of the scarlet fever. Repeated lumbar puncture may have a curative action in case of a simple reaction and may aid, in connection with warm baths, in the purulent meningitis. A few rare cases are on record of recovery from streptococcus meningitis, but he knows of none of recovery from scarlatinal meningitis. He reviews the literature on the subject, remarking that in the majority of cases the scarlatinal meningitis was secondary to otitis.

46. Paralysis of Left Recurrent Laryngeal Nerve.—Guder and Dufour report 79 cases and discuss the various etiology. In 4 instances the paralysis was the result of compression from a cancer and in a number of others of compression from tuberculous glands. In 2 cases no cause could be discovered for the paralysis except mitral stenosis, but in many such cases in the literature their coexistence, they think, was probably merely a coincidence, a sufficient other cause for the paralysis having been discovered at autopsy. Aortitis or aneurism was evidently responsible in 16 of their cases. In 4 the paralysis occurred in connection with tabes, in 7 with goiter, in 11 with operations for goiter, and in only 17 did it prove impossible to trace the paralysis to its cause, although a long preceding infectious disease was possibly responsible in some of them.

Archiv für Kinderheilkunde, Stuttgart

L, pp. 1-476. Last indexed April 17, p. 1298

47 Fifty Years of the *Archiv*. A. Baginsky.

48 *Cutaneous Tuberculin Reaction. (Wert der Pirquetschen Reaction.) S. Müller.

49 *Pathogenesis of Intestinal Hemorrhages in Infants. (Darmblutungen im Säuglingsalter.) W. Sochaczewski.

50 Congenital Heart Defects. (Zwei Fälle von angeborenen Herzfehler.) S. Bach.

51 Deviation of Complement in Scarlet Fever. (Ueber Complementablenkung bei Scharlach.) P. Sommerfeld.

52 Injury of Infants with Gastrointestinal Disturbances from Fat in Food. (Zur Theorie der Schädigung magendarmkranker Säuglinge durch fetthaltige Ernährung.) J. Neumann.

53 Acetonuria in Scarlet Fever. F. Proshauer.

54 Primary Intestinal Tuberculosis in Children, with Special Regard to its Relations with Primary Tuberculosis of the Respiratory Apparatus. L. Mendelsohn.

55 Infant Feeding. (Ergebnisse auf dem Gebiete der Säuglingsernährung in den letzten Jahren.) P. Biedert.

56 Pyloric Spasm and Fat in the Diet. (Pyloruskrampf und Fett in der Nahrung.) Id.

57 Liver Cysts in Children. (Lebercysten im Kindesalter.) W. P. Shukowsky.

58 Blue Disease from Congenital Anomalies. (Morbus caeruleus [Blausucht] bedingt durch eine grosse Reihe angeborener Anomalien des Herzens und anderer Organe.) F. Theodor.

59 Leukemia in Boy of Nine. (Bemerkenswerter Fall von Leukämie bei einem 9jährigen Knaben.) P. Kränzle and H. Rehn.

60 Chronic Appendicitis in Children. (Appendicite chronique chez les enfants.) J. Comby.

61 *Danger of Transmission of Syphilis in Modern Infant Asylums. J. Cassel.

62 *Statistics in Regard to Inherited Syphilis. Id.

63 *Importance of Serodiagnosis for Congenital Syphilis. (Bedeutung der Serumdiagnostik für die congenitale Lues.) M. Joseph.

64 Nocturnal Motor Neuroses of the Head in Children. (Die nächtlichen Kopfbewegungen der Kinder.) C. Stamm.

65 Two Cases of Infantile Scurvy. (Barlowsche Krankheit.) L. Concetti.

66 Serodiagnosis of Experimental Hyperthyroidism. (Begriff und Methode der bei der Diagnose des experimentellen Hyperthyreoidismus angewandten Complementablenkung.) F. Valagussa.

67 Chemistry of Children's Urine on Diet Rich or Poor in Albumin. (Acidität, Ammoniak, Phosphorsäure und Gesamtstickstoff im Kinderharn bei eiweissarmer und eiweissreicher Ernährung.) A. Vozarik.

68 Origin of Congenital Stridor. (Ueber eine anatomische und klinische bemerkenswerte Anomalie des Laryngotracheal-rohres nebst kritischen Bemerkungen über die Aetiologie des Stridor laryngis congenitus.) J. Trumpp.

69 *Appendicitis in Children. (Appendicitis der Kinder.) G. Alsberg.

70 *Dosage of Drugs at Different Periods of Growth. (Dosierung der Arzneimittel in den verschiedenen Wachstumsperioden.) W. Troitzky.

71 Research on Pertussis. (Keuchhustenuntersuchungen.) G. Arnheim.

72 Enlargement of Spleen in Typhoid. (Milztumor im Typhus abdominalis.) A. Solaro.

73 *Diagnosis of Tuberculosis of the Bronchial Glands in Children. (Diagnosestellung der Bronchialdrüsentuberculose im Kindesalter.) O. Cozzolino.

74 Bacteriology of the Blood in Digestive Disturbances in Infants. (Bacteriologische Blutbefunde bei Ernährungskrankheiten im Säuglingsalter.) A. Caan.

75 Amount of Nourishment Required for Artificially Fed Infants. (Nahrungsbedarf künstlich ernährter Säuglinge.) K. Oppenheimer.

76 Determination of Complement in Child's Serum. (Complementbestimmungen des kindlichen Serums.) H. Koch.

77 Motor Function of the Stomach. (Die motorische Function des Magens.) H. Roeder.

78 Relations between Weight and Nursing Capacity in Working Women. (Die Beziehungen zwischen Körpergewicht und Stillen bei der Arbeiterfrau.) G. Tugendreich.

48. Cutaneous Tuberculin Test.—Müller gives the findings in 497 children tested with tuberculin according to von Pirquet's technic, described in THE JOURNAL, Feb. 27, 1909, page 675. The findings sustain the value of this test in the dubious cases and its reliability. In 2 of the children the clinical diagnosis of tuberculosis was denied by the findings of the test, and it was supposed that the test had failed in these instances, but autopsy revealed another origin for the symptoms and not a trace of tuberculosis could be discovered.

49. Intestinal Hemorrhage in Infants.—Five cases are reported from Baginsky's clinic to show the causes liable to induce intestinal hemorrhage in infants. The symptoms in one case suggested spasm of the pylorus, but autopsy disclosed an unsuspected duodenal ulcer. In another case the source of the hemorrhage was not discovered, as the tendency was promptly arrested by two subcutaneous injections of 20 c.c. of 3 per cent. solution of gelatin, with buttermilk for the sole food. The four-months child was dismissed in good condition in two weeks, although the first stool had been merely seven tablespoonfuls of dark red blood. In another case nothing could be discovered at autopsy to explain the intestinal hemorrhage, except purulent meningitis and thrombosis in the longitudinal sinus. The hemorrhage in another accompanied an atypical miliary tuberculosis; diffuse tuberculosis of the bowel had led to perforation and ileus, the syndrome suggesting invagination.

61. Prophylaxis of Transmission of Syphilis in Foundlings' Homes, Etc.—Cassel comments on the difficulty of preventing transmission of unsuspected syphilis in institutions of this kind. Among the 744 infants at the Berlin asylum in his

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charge 8 proved to have inherited the taint of syphilis, but nothing was observed to suggest its presence until the child was from four to thirteen weeks old. There was no trace of rhinitis in some of these syphilitic children during the time they were under observation. The alarm was given in one case only by the rapid enlargement of the liver. Five of the 8 children died, one from visceral syphilitic lesions and one from erysipelas complicating purulent rhinitis. The Wassermann test is proving extremely useful for sifting out suspects among the infants and wet nurses, but, if negative, must be repeated from time to time. The attendants must be constantly warned and reinstructed in prophylactic measures and the physician in charge must be on the alert to detect the first signs of inherited syphilis in the children, examining them anew every day and recording the condition of the nursing children at least twice a week, even with negative findings. The attendants are admonished repeatedly in regard to prophylactic measures and the importance of reporting the slightest trace of disturbance on skin or mucosa on themselves or their charges. Even with all this care one of the attendants developed syphilis, possibly acquired outside but probably owing to infection from one of the infants. Children given out for adoption before the fourth month are liable to show signs of inherited syphilis later and cause disaster in their new home. Müller knows of such occurrences and mentions a recent example where an infant of two and a half months was taken into a family with other small children and very soon after manifested severe inherited syphilis. If syphilis or gonorrhea is discovered in a child in the asylum it is isolated and the attendant puts on a special overgarment in entering the isolated space; the resident physician is responsible for strict and unceasing compliance with his directions. The wet nurses are inspected by a specialist before being given children to nurse, but even with scrupulous care there may be trouble, as in one case in which the nurse and her child had passed the examinations, but the infant later developed severe manifestations of syphilis.

62. **Statistics of Inherited Syphilis.**—Cassel states that statistics show 1.18 per cent. syphilitics among 17,448 infants at his Berlin policlinic, including 3 cases of syphilitic twins. One of the twin children seemed to have escaped, but when approaching the age of 2 spontaneous fractures occurred and the Wassermann test gave positive results.

63. **Serum Reaction in Congenital Syphilis.**—Joseph cites examples to illustrate the great benefit that may follow treatment based solely on the findings of the Wassermann test in dubious cases of inherited syphilis in young children, apparently normal except for some slight affection. In one case it was a "rheumatic" trouble in the arm, which yielded promptly to mercurial treatment. Vigorous treatment is indicated the moment the diagnosis is assured, he affirms, because what is often assumed to be tardy manifestations of inherited syphilis in many instances is in reality infection acquired since birth. The frequency of acquired syphilis in young children has recently been emphasized anew. In one such case a year-old child was infected by his father, but remained apparently healthy, and only a single course of mercurial treatment was given. At the age of 33 multiple sclerosis developed; it might possibly have been prevented by more thorough mercurial treatment while a child. In another case the Wassermann test was positive in a young man who showed no signs of syphilis but whose wet nurse had been discharged on account of syphilitic manifestations. Mercurial treatment was advised. In another case nothing could be found to explain the undoubtedly syphilitic destructive lesions of the palate in a boy of 13 with positive Wassermann findings. Vigorous treatment has arrested the process, but the source of the infection is still a mystery.

69. **Appendicitis in Children.**—Alsberg summarizes thirteen cases from his experience; in nearly every instance there had been a preceding infectious sore throat. The colic-like pains of the chronic forms of appendicitic peritonitis are often mistaken by the parents for indigestion and the children are tormented with purgatives, etc., as small children generally refer to the region of the umbilicus and stomach the disturbing sensations induced by chronic appendicitis.

70. **Dosage of Drugs for Children.**—Troitzky compares clinical experiences with a series of experimental researches, all of which sustain his assertions that drugs act differently in children according as the children are growing fast or not. During the periods when there is exceptionally active growth a smaller dose of the drug has a more vigorous action than a much larger dose during the periods of comparative arrest in the physical development. During these quiescent periods larger doses should be prescribed than would otherwise seem advisable in proportion to the age and weight. During the periods of active growth and during convalescence from disease a small dose acts as effectually as a much larger one under other conditions.

73. **Early Diagnosis of Tuberculous Bronchial Glands in Children.**—Cozzolino has been able to diagnose tuberculous bronchial glands in 18 children since 1900, all between 2 and 13, the diagnosis being confirmed by the course of the cases. There were generally more or less anemia and dyspepsia, and the superficial veins were prominent. The cough suggested that of pertussis in some of the cases; sometimes it was accompanied by vomiting. He found de la Camp's sign particularly instructive. This is the relative dulness on percussion of the spinous processes of the fifth and sixth thoracic vertebræ. It was positive three times in the five children examined for it, while only one of these children had an area of tenderness between the shoulder blades (Petruschky's spinalgia). In 4 of the 18 children the unilateral restriction of breathing (Grancher's sign) was marked. He remarks further that it requires much pains and judgment to interpret the Roentgen findings aright in these cases; they are more conclusive with calcified glands.

Archiv für Verdauungs-Krankheiten, Berlin

June, XV, No. 4, pp. 325-440

79 *"Potato Diet" in Treatment of Obesity. (Zur Methodik der Entfettungskuren.) G. Rosenfeld.
80 *Treatment of Gastric Ulcer. (Behandlung des Magengeschwürs.) E. Mayerle.
81 *Pathology and Therapy of Mucomembranous Colitis. D. B. Kling.
82 *Periodical Stomach Disturbances. (Zu den periodischen Magenkrankheiten.) W. Büttner.
83 Examination of Entire Pharynx and Adjoining Regions. (Orthe-Hypopharyngoskopie.) F. Schilling.
84 *Bacillus longus* in the Stools in Two Cases. (Vorkommen "langer Bazillen" im Stuhl.) F. A. Schaly.

79. **The "Potato Diet" in Treatment of Obesity.**—Rosenfeld reports continued success with and advocates wider adoption of his method of treating obesity which he introduced four years ago. He here describes the bases for it and the mechanism of its action. The diet must be kept up for months or for a year or so, and on this account it must be palatable and satisfying. The main features are the supplying of the necessary amount of albumin, the prohibition of fat, the diet scanty in calories, but with plenty of carbohydrates, especially in the form of potato, with large amounts of cold water for the beverage, rest in bed and frequent meals. The feeling of satiety depends on the filling of the stomach, and it seems to be immaterial to the stomach what it is filled with. The food must be such as to fill the stomach while supplying merely small amounts of nourishing substances. Potato, water and soups fulfill these requirements and aid in reducing the fat. Every quart of cold water (10 C., or 50 F.) ingested causes the consumption of 27 calories to bring it to body temperature—that is, equivalent to the consumption of 3 gm. fat. As "filling" foods must be selected, fat should be avoided. Small, frequent meals prevent the development of a too hearty appetite, as also repose, especially bed rest. The diet, therefore, is, for the first meal: Tea with saccharine and 30 or 40 gm. of rolls with marmalade or the like; the second meal is 10 gm. of cheese and water; the third 100 gm. apple and water; at noon 2 glasses of water, 1 or 2 plates of soup with potatoes and vegetables, lean meat and salad without oil. During the afternoon, tea with saccharine, 6 prunes and water; later, 100 gm. apple. For supper, 2 eggs and potato salad or lean meat and vegetables. The principal advantage of this diet is that the patients do not feel the restrictions and do not become irritable or nervous. The only by-effect noted was occasionally backache, which probably was due to the change in the attitude of the spine as the abdomen lost

its fat. The patients thrive on this diet and feel better in every respect, as he shows by a number of examples. Caution is necessary with diabetes, and the amount of fluids ingested had better be kept below 2 liters if there is general dropsy. The reduction of weight on this diet is from the loss of actual fat. It often requires more than six months to bring the patient down to his normal weight, and it is wise to keep up this diet a few days in each week to maintain the benefit.

80. **Treatment of Gastric Ulcer.**—Mayerle reviews the various methods in vogue and reports his results in 71 cases of gastric ulcer in which he applied Lenhartz's method. The list includes 29 recent, bleeding gastric ulcers, 17 chronic and 25 uncomplicated recent cases. His verdict is favorable on the whole, as smooth recovery was noted in 65 per cent., slow recovery without recurrence in 11 per cent., and with recurrence in 14 per cent. In 10 per cent. no benefit was apparent, or it was transient, while in 7.1 per cent. the diet was not tolerated. In no case was any injury apparent from the diet commenced immediately after the hemorrhage. Occasionally the Lenhartz diet seemed to increase the tendency to hyperchlorhydria and the allied hypersecretion. In these cases it was found necessary to increase the proportion of fat in the diet, while reducing the proportion of albumin. In the chronic cases with reduced acidity a diet with less albumin, moderate fat and carbohydrates predominating answered the purpose better.

81. **Mucomembranous Colitis.**—King bases treatment on diet, purgatives, enemas, massage and electricity. The food must be rich in waste, the fat in form of cream, butter and bacon, but castor oil and cod liver oil are the main reliance. The trouble is a local condition caused by irritation from stagnating fecal masses in persons with a tendency to neuroses. Treatment must aim to insure regular stools and to tone up the nervous system in general. Neither factor alone answers the purpose. He advises institutional care, even for the mild cases, for four or six weeks. The severer cases require a course of treatment continued for from six months to two years or longer. The patient must spend the first six weeks in bed. He impresses on his patients the importance of maintaining this diet, with gymnastic exercises before bathing in the morning, urging also the necessity for keeping occupied during the entire day. Operative measures do not offer much chance of success in the severer cases which resist systematic treatment.

82. **Periodical Stomach Disturbances.**—Büttner discusses a group consisting of genuine periodical hypersecretion, genuine periodical vomiting and genuine periodical cardialgia. There are two forms of periodicity, he declares, that of which neuralgia is the type and that of epilepsy. In the latter the attacks recur like an explosion from accumulation beyond a certain point, after which there is a period of calm until the accumulation reaches this point again. He is inclined to accept these two forms as evidence of the central or peripheral origin of the disturbance. This point is important for differentiation, as he shows by examples, including the case of a man of 35 who had acquired syphilis at 21 and had taken several courses of mercurial treatment. Every few weeks or months intense pains in the stomach occurred for a few hours, but no vomiting or headache, neurasthenia or migraine, and no signs of tabes. The assumption of gastric crises is justified by the characteristic periodicity of the cardialgia; the serum reaction may give the clue in such cases.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XIV, No. 1, pp. 1-166. Last indexed April 10, p. 1215

85 Cesarean Section. (Historisches und Kritisches über den Kaiserschnitt.) F. A. Kehrer.
86 The "Isthmus of the Uterus" and Placenta Formation at this Point. (Der Isthmus utero und die Placenta isthmica.) H. Bayer.
87 The Operative Era in Obstetrics, and Vaginal Cesarean Section with Contracted Pelvis. (Die neue Aera der Geburtshilfe und die Anwendung des vaginalen Kaiserschnittes bei engem Becken.) A. Döhrssen.
88 Technic of Extraperitoneal Cesarean Section and Delivery through the Utero-Abdominal Wall Fistula. (Technik des extraperitonealen Uterusschnittes und der Entbindung durch die Uterusbauchdeckenfistel.) H. Sellheim.
89 Anatomy and Etiology of Congenital Hyperanteflexion of the Uterus. K. Hegar.
90 Chemical Research on Lutein Content of the Corpus Luteum during Pregnancy. (Luteingehalt des gelben Körpers während der Gravidität.) J. Wallart.
91 Simultaneous Tubal Pregnancy on Each Side. (Gleichzeitige doppelseitige Tubarschwangerschaft.) A. Labhardt.
92 Case of Trophoneurotic Lesions after Stovain Spinal Anesthesia. (Trophoneurotische Erscheinungen nach Lumbalanästhesie.) A. Mayer.

Berliner klinische Wochenschrift

June 14, XLVI, No. 24, pp. 1161-1188

93 *Nausea. I. Boas.
94 *Connection between Stomach and Gynecologic Disorders. (Zusammenhang von Magen- und Frauenleiden.) L. Lewisohn.
95 *Gastric Ulcer and Digestive Gastrosuccorrhea. (Magengeschwür und digestiver Magensaftfluss.) K. Grandauer.
96 Etiology of Trachoma. Halberstaedter and S. v. Prowazek.
97 Fracture of the Talus. R. Levy.
98 *The Syphilis Seroreaction in the Cadaver. (Luesreaktion an der Leiche.) E. Seligmann and G. Blume.
99 *Experimental "Salt Fever." (Salzfieber bei normalen und anaphylaktischen Kaninchen.) H. Davidsohn and U. Friedemann.
100 Staining Technic for Spermatozoa. (Neue und beste Methode für den Nachweis der Spermatozoen.) A. de Dominicis.
101 Criticism of Tests for Sugar in Urine. (Kritik zur Harnzuckerbestimmung mit dem Glukosimeter nach Zechandelaar.) F. Goldmann.
102 Umbilical Cord Infection and Hemorrhage. (Nabelerkrankungen des Neugeborenen.) E. Runge.

93. **Nausea.**—In Boas' opinion, the symptom of nausea has received insufficient attention from medical men. He enumerates the causes, including parasites, especially intestinal, arteriosclerosis, retention of urine from prostatic hypertrophy, brain tumors, uremia, and icterus. In these cases the nausea is accompanied by other more prominent subjective and objective symptoms. It is rare in gastritis, but may be found in connection with vomiting in conditions of stasis, and is common when there is abnormal formation of gas in the stomach or intestine. Of the cases in which nausea is the prominent symptom the majority are in females and a close connection with the various phases of menstruation is found. Genital and other hemorrhages are apt to induce it. Slighter causes may suffice to evoke it and it is frequently purely of psychic origin. A condition of under-nutrition is generally present. Nausea is not closely connected with the taking of food, but is more influenced by position and is usually removed or lessened by recumbency. The symptom probably depends on a vasomotor disturbance of the cerebral circulation which is favored by anemia, but with which the stomach itself has nothing to do, as is shown by the fact that the secretory activity of the organ is unaltered, or, if there is a slight deviation, it is in the direction of hypoacidity rather than hyperacidity. The diagnosis is usually easy, but, especially in men, careful physical examination should eliminate all possible organic causes. Even in women, too ready recourse to a psychic explanation may cause a beginning pregnancy to be overlooked. The prognosis is usually good, although there are rare obstinate cases. If the malady is very chronic a long course of treatment will be needed. In treatment proper psychic measures should be instituted and rest should be insisted on as the most important remedy. The diet should be easily digestible, palatable, and sufficiently nourishing. Hot compresses to the head have been useful in Boas' experience. Massage is objectionable in the early stages and forced or excessive feeding should be avoided. The bromids are useful in cases of moderate severity. Chloral, which may give good results in mild cases, fails utterly in the severe ones. Chloroform is palliative, but of no permanent value, and cocain has proved disappointing. Morphin in small doses hypodermically is indicated only in the severe cases, and here Boas regards its use as questionable on account of possible serious consequences and of the uncertainty of its effect. While medicinal treatment is of little value, rest and patience will usually lead to success.

94. **Connection Between Stomach and Gynecologic Affections.**—Lewisohn analyzes the clinical history of 100 cases in which there were both stomach and gynecological disturbances. Excluding all with an independent stomach trouble or general affection or enteroptosis, 34 are left in which the pathologic process in the genital apparatus seemed to be connected as a causal factor with the stomach affection. The list includes inflammatory processes in 16, displacement of the uterus in 5, and both in 10, a myomatous uterus in 1 and postoperative disturbances in 2. In only 7 cases were the stomach disturbances noted before the gynecologic; in 5 they

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commenced about the same time, and in the others the stomach trouble did not appear until some time after the other had been installed. In the majority of cases treatment of the gynecologic affection did not attenuate the gastric trouble, although a number of cases are on record in which gynecologic treatment cured stomach disturbances of long standing, resisting internal treatment. Lewisohn states that examination of the stomach content during menstruation and pregnancy does not give a correct impression of the secretory functions of the stomach. The gastric acidity was subnormal in the majority of his cases, but others have reported normal findings or hyperacidity. The nervous affection of the stomach in these cases is preceded by some change in the general nervous system, and this latter requires treatment. The gynecologic lesion may be responsible for this general nervous disturbance and thus, indirectly, for the secondary stomach trouble.

95. **Gastric Ulcer and Digestive Hypersecretion.**—Grandauer states that the experiences at Strauss' clinic at Berlin with 48 cases of gastric ulcer and 27 suspects indicate a close connection between digestive hypersecretion and the presence of an ulcer. The ulcer is not merely an accompaniment of the digestive hypersecretion but helps to maintain it. The practical conclusion is that a course of treatment as for gastric ulcer is indicated in every case of hypersecretion in which there is the slightest suspicion of a tendency to ulcer. Butter and cream aid in combating the hypersecretion and help to keep the patient in good condition. Strauss has recently warned that the Lenhartz diet requires a certain amount of caution. Fat is one of the most essential factors in the treatment of gastric ulcer associated with hyperacidity.

98. **The Seroreaction to Syphilis in the Cadaver.**—The findings were positive in 28 and negative in 72 of the cadavers examined, the details of the cases showing that the Wassermann test is a useful aid in pathologic anatomic research. At the same time, diseases causing much debility, such as phthisis, sepsis and cancer, seem to induce a tendency to production of substances which give a positive reaction to the complement-fixation test. The details of the 100 cases are tabulated.

99. **"Salt Fever" in Rabbits.**—This communication from Heubner's hygienic institute at Berlin states that intravenous or subcutaneous injection of a salt solution induced an aseptic "salt fever" in the rabbits, much more pronounced with half the dosage when anaphylaxis had been previously induced. Grape sugar, alien blood serum and Ringer's solution all had this same fever-inducing effect.

Correspondenz-Blatt für Schweizer-Aerzte, Basle

June 15, XXXIX, No. 12, pp. 401-432

103 Topography for Localization in the Brain. (Neue Gesichtspunkte in der Frage nach der Lokalisation im Grosshirn.) v. Monakow.

104 Hydrophthalmus. Siegrist.

Deutsche medizinische Wochenschrift, Berlin

June 17, XXXV, No. 24, pp. 1049-1088

105 *Treatment of Itching Skin Lesions. (Behandlung der juckenden Hautkrankheiten.) Klingmüller.

106 Is it possible to Differentiate Ileus by Constriction from Band Above? (Ist die Abgrenzung einer Strangobturation vom Obturations- und Strangulationsileus berechtigt?) Wilms.

107 Changes in Views and Tasks in Field Surgery. (Veränderung unserer kriegschirurgischen Anschauungen und Aufgaben.) Kayser.

108 *Buttermilk in Infant Feeding. (Ueber den derzeitigen Stand der Buttermilchernährung gesunder und kranker Säuglinge.) H. Koeppe.

109 Natural Difficulties in Way of Breast Nursing. (Natürliche Schwierigkeiten beim Stillen.) C. Stuhl.

110 Unreliability of Roentgen Exposures for Interruption of Pregnancy. (Zur Frage der Schwangerschaftsunterbrechung durch Röntgenbestrahlung.) H. E. Schmidt.

105. **Treatment of Itching Skin Lesions.**—Klingmüller remarks in the course of his description of the various methods of treatment that baths should be used more frequently than is the case at present for diffuse skin affections with general itching. Carbonated baths are specially useful when there is a nervous basis, and sulphur baths are particularly effectual in extensive eczematous disorders. Alcohol rubs, following with powder or salve, are useful and refreshing, cleansing without soap and water. He has frequently been gratified with the effect of sponging over the entire body in extensive itching conditions with a mixture of 0.2 part mercuric chlorid, 20 parts glycerin, 100 parts perfumed spirit and alcohol to 400 parts. Complete exclusion of air may relieve the itching and will prevent injury from scratching. For these reasons he applies a starch bandage over all the other dressings or applications in case of an itching dermatosis, especially on the legs. The same result may be accomplished by applying a varnish which dries rapidly, such as a combination of equal parts of zinc oxid, talcum, glycerin and distilled water, with or without addition of some disinfectant. This varnish shuts out the air and the glycerin keeps the skin soft, while the tendency to itching is attenuated. A plaster may be found useful for circumscribed dermatoses. The greatest progress in the treatment of itching lesions of late years has been realized by radiotherapy. He has made extensive use of the Roentgen rays especially for the subacute and chronic forms of itching dermatoses; good results have been obtained in pruritus vulvæ; the dosage is below that inducing a visible dermatitis. He has been successful also with violet and ultraviolet rays, using them to a slight erythema dosage. It is thus possible to arrest the itching in extensive eczema and with other dermatoses, and the rays are also liable to effect a complete cure.

108. **Buttermilk in Infant Feeding.**—Koeppe declares that the superiority of buttermilk in ions adapts it better for infant feeding than cow's milk. Human milk contains little albumin, little ash and large proportions of ions; cow's milk much albumin, much ash, few ions, while "buttermilk gruel" contains much albumin, much ash and quantities of ions. Cow's milk contains casein in the form of casein salt, while in buttermilk it is in the form of casein acid, which explains its greater digestibility. He regards the introduction of buttermilk into infant feeding as not only a progress in respect to practical results but also in the deeper insight it allows into the desiderata of infant feeding. He approves of the "buttermilk gruel," which is made of sour cream, the acidity not too pronounced. The buttermilk must be fresh each day; one liter is mixed with 60 gm. cane sugar and 15 gm. wheat flour, boiled up three times and then distributed in sterilized bottles each representing one meal. The ions in the buttermilk evidently cause inversion of the cane sugar to some extent.

Medizinische Klinik, Berlin

June 13, V, No. 24, pp. 873-914

111 *Cirrhosis of Liver. (Leberzirrhose.) G. Hoppe-Seyler.

112 Chronic Non-Tuberculous Bronchial Lesions. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose.) Posselt. Commenced in No. 22.

113 *Nervous and Mental Disturbances in School Children. (Die psychischen Erkrankungen der Schulkinder.) G. Flatau. Commenced in No. 23.

114 *Nail Extension Treatment of Fracture of Femur. (Zur Nagelextensionsbehandlung der Oberschenkelbrüche.) A. Schwarz.

115 Hydriatic Treatment of Neurasthenia. A. Fuerstenberg.

116 *Prognosis in Tuberculosis. (Die Prognosenstellung bei der Tuberkulose mit besonderer Berücksichtigung der Balneologie, nebst Bemerkungen über die Frühdiagnose und Tuberkulintherapie.) A. Wolff-Eisner.

117 Viscosity and Albumin Content of Blood on Various Diets. (Viskosität und Eiweissgehalt des Blutes bei verschiedener Ernährung, besonders bei Vegetariern.) H. Determann.

June 20, No. 25, pp. 915-952

118 *Puerperal Eclampsia. L. Seitz.

119 Nature of Osteomalacia. (Wesen des osteomalazischen Knochenprozesses.) G. Axhausen.

120 Physiotherapy of Scoliosis and Ankylosis of Joints. (Physikalische Behandlungsmethoden.) Klapp.

121 Phototherapy in Hands of General Practitioner. Siebelt.

122 Preparation of Digitalis. (Zwei Digitalisfragen aus der Praxis.) C. Focke.

123 Mechanism of Action of Baths in Heart Disease. (Welches sind die erwiesenen Vorgänge der Zirkulation beim Gebrauch von Bädern, die zur Restitution des Herzens führen?) Jacob.

124 Growth of Hair on the Body. (Behaarung des Leibes.) F. Schilling.

125 Action of Mineral Waters on the Intestines. (Mineralwasserwirkungen auf den Darm.) H. Kionka.

126 Treatment of Syphilis. E. Welander.

111. **Cirrhosis of the Liver.**—Hoppe-Seyler emphasizes the importance of curing or attenuating the gastrointestinal disturbance of the first stage of cirrhosis of the liver. The diet must aim to prevent putrefaction and fermentation in the digestive tract. The food should be light and finely divided or fluid, with little fat, no salads and no raw fruit or cheese. Medicinal disinfection of the intestine is impossible except by stimulating the bowel functioning with laxatives including

courses of mineral waters. A trip to a watering place benefits mainly by giving the patient a chance to change his mode of life and diet; a stay in a sanitarium may also prove of benefit, teaching the patient how he must live thereafter. Treatment along these lines will often arrest the disease if not too advanced, and the patient can resume his occupation without much disturbance from the digestive tract and liver. In a more advanced stage stronger measures are necessary, but tapping is not required unless the diaphragm is pushed up so much that there is dyspnea or the secretion of urine interfered with by the pressure on the kidneys. The condition of the heart and kidneys is of the greatest importance as chronic myocarditis is frequent; heart tonics may be necessary and the patient should be warned to avoid efforts liable to cause injury of the heart. Salt must be avoided, and meat extractives, especially when there is a tendency to edema. Diuretics may prove useful if ascites develops, and the collateral circulation should be promoted.

113. **Psychic Disturbances in School Children.**—Flatau concludes his long study of this subject with the statement that the main task is in prevention, and in this the school, the parents and the physician must cooperate. He denounces the way in which parents punish the child for actions in school for which he was sufficiently punished there; the legal principle *ne bis in idem* does not seem to apply to school children, he remarks. If spurred to undue ambition they are liable to become nervous and lose interest.

114. **Nail Extension in Treatment of Fractures of the Thigh.**—Schwarz has been applying Steinmann's method of applying traction to the fractured femur by a weight hanging from a nail driven into the femur just above the condyle on each side. The results have been good in all but one of his eighteen cases; in this the fracture was so close to the condyle that the introduction of the nails transformed the simple into a compound fracture, the resulting infectious process proving fatal. Except when the fracture is near the condyle and when the extravasation of blood extends down as far as this point, the nail extension seems to answer its purpose admirably.

116. **Tuberculin Reactions in Early Diagnosis and Prognosis.**—Wolff-Eisner comments on the importance of the new tuberculin local reactions as inaugurating a new era in our insight into tuberculosis and into the indications for treatment. He maintains anew that the greatest progress has been realized by the ocular or conjunctival test, which alone of all the tuberculin-diagnostic methods reveals exclusively the active tuberculous processes, not the quiescent. It is much more instructive and delicate, he says, than the seroreaction in syphilis, the so-called Wassermann test, which is a test-tube technic, not a biologic reaction. His experience with the ocular test in 4,500 cases has confirmed the fact that a pronounced positive ocular response offers a more favorable prognosis than a weak response or than no response when there are other signs of tuberculosis—the absence of a response in unmistakable tuberculosis shows that the vital processes are flagging. The longer a cutaneous reaction persists the better the prognosis, as the durable reaction indicates active defence on the part of the organism. A negative reaction to the cutaneous tuberculin test in the presence of manifest signs of tuberculosis should be accepted as an indication of an unfavorable prognosis. We thus have come into possession of a means of estimating the prospects of recovery which has proved infallible in his experience, with the single exception that the negative response in a pregnant tuberculous woman may become transformed into a positive response if her system is promptly relieved of the strain of the pregnancy. The complete change in conditions that follows the induced abortion may restore the reacting power and improve the otherwise unfavorable prognosis.

118. **Present Status of Puerperal Eclampsia.**—In the course of this article Seitz states that there are fully twenty cases of puerperal eclampsia on record in which there were no convulsions and presumptive diagnosis was confirmed only by the autopsy findings. The toxic nature of the disturbances seems evident; Stroganoff is the only one who still clings to the assumption of an infectious origin. Neither biochemical, nor serologic nor experimental research has established any special toxicity in the placenta in eclampsia. Zweifel's theory that the disturbances are the result of intoxication from meat lactic acid is discountenanced by specialists in metabolic chemistry who regard the lactic acid as a secondary product, "rather a consequence than a cause of the convulsions." At the same time, administration of alkalies is proving a valuable symptomatic means for restoring the waning alkalinity of the blood, and Seitz advocates its more general use. Sweating procedures do not seem to benefit; probably the toxin is of a colloid or big molecular composition which prevents its elimination in the perspiration, and the sweating may do actual harm, as it leaves the toxin more concentrated from the thickening of the blood. Zweifel combines venesection with saline infusion. Decapsulation has been done in 32 cases, but should not be attempted until delivery has failed to relieve. Bumm advocates artificial respiration, long continued, to maintain regular heart action and respiration and ward off cyanosis with its peril of pulmonary edema. As long as the blood pressure is high and the pulse good the heart can be counted on as a rule, but if the blood pressure drops heart tonics are indicated.

Münchener medizinische Wochenschrift

June 15, LVI, No. 24, pp. 1217-1264

127 *To Render the Tissues Less Sensitive to Roentgen and Radium Rays. (Desensibilisierung gegen Röntgen- und Radiumstrahlen.) G. Schwarz.

128 Passive Transmission of Hypersusceptibility to Tuberculosis. (Passive Uebertragung der Tuberkuloseüberempfindlichkeit.) J. Bauer.

129 Diagnostic Importance of Diastolic Murmurs in Dilatation of the Aorta. (Diagnostische Bedeutung diastolischer Geräusche über Erweiterungen der Aorta.) G. Hoppe-Seyler.

130 *Clinical Experiences with Intravenous Injections of Suprarenal Preparations in Collapse. (Erfahrungen über intravenöse Suprareninjektionen bei schweren Herz- und Gefässkollapsen.) M. John.

131 *Panhysterectomy for Sterilization of Tuberculous Pregnant Women. (Sterilisation tuberkulöser schwangerer Frauen durch die Totalexstirpation des graviden Uterus mit seinen Adnexen.) E. Martin.

132 Relation between Accidents and Tumors. (Beziehungen zwischen Unfall und Geschwülsten.) Gebele.

133 To Cut Open Casts. (Billiges und bequemes Verfahren zum Aufschneiden von Gips- und Wasserglasverbänden.) W. Neumann.

134 Official Vital Statistics for Berlin. (Lehrreiche Angaben aus dem statistischen Jahrbuch der Stadt Berlin.) A. Fischer.

127. **Reduction of Sensitiveness to Roentgen and Radium Rays.**—Schwarz noticed that dry seeds were not affected by exposures to Roentgen rays, and germinated afterward apparently unmodified. Seeds beginning to germinate, however, were rapidly and seriously modified by even slight exposures. This connection between the quiescent and active metabolism and the sensitiveness to the action of the Roentgen rays suggested that if the metabolism in a part could be artificially reduced the region would be desensitized—to borrow a term from photography. He here describes experiments in this line which confirm his assumption that reduction of the metabolic processes in human tissues reduces the sensibility to Roentgen and radium exposures. He gives an illustration of one experiment: A girl of 11 being treated for nevus of the forearm had two square radium capsules applied, one lying loose on the arm, the other strapped down so tight that it compressed the skin and expelled the blood, thus checking the metabolism. The dermatitis under the loose capsule was marked and required two weeks for complete subsidence, while under the compressing capsule there was only transient, slight hyperemia. The same effect was obtained with Roentgen exposures of two square spots on the side of the head, one compressed and the other not. The hair dropped out of the non-compressed square, while the compressed square patch showed no effect from the Roentgen exposures. He does not venture to decide what technic is best for the purpose of checking the metabolism: mechanical pressure, elastic traction, compressed air, congelation or a chemical—he is now experimenting with each and is confident that this desensitization will aid materially in Roentgen and radium treatment, both of the skin and of deeper regions.

130. **Intravenous Suprarenal Preparations in Collapse.**—John reports seven cases which illustrate the life-saving benefit possible in cases of threatening cardiovascular collapse. This measure may succeed in tiding the patients past the danger point when everything else has failed. His clinical experience

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confirms in every respect the results of experimental research. It seems possible that doses may prove effectual smaller than those hitherto advocated. In one of the cases he failed to follow up the remarkable benefit from a single injection, and ascribes the fatal outcome to his shrinking from continuing the injections.

131. **Sterilization of Tuberculous Pregnant Women by Hysterectomy.**—Martin advocates vaginal panhysterectomy as a comparatively simple means of arresting the pregnancy in tuberculous women whose condition requires this. He reports ten cases in which this was done with the restoration to comparative health of the women. One reason for removing the ovaries is the physiologic tendency to take on fat after the premature menopause. This is a favorable factor in the struggle against tuberculosis. The hysterectomy is done under spinal anesthesia, the whole requiring less than twenty-four minutes, and the women recovering promptly. The cases in which this is indicated are those with mild or moderate tuberculosis and the pregnancy in its first third; the ocular tuberculin test is often useful in defining the indications.

Wiener klinische Wochenschrift, Vienna

June 17, XXII, No. 24, pp. 839-874

135 *Auricular Fibrillation and Absolute Irregularity of the Heart. (Vorhoflimmern und Arhythmia perpetua.) C. J. Rothberger and H. Winterberg.

136 Influence of Intravenous Injections of Cholera Antitoxin on Course of Disease. (Einfluss der Intravenösen Injektionen des antitoxischen Anticholeraserums.) A. Jegunoff.

137 *Aseptic Intestinal Anastomosis. (Darmanastomosen.) L. Moskowicz.

138 *Importance of Determination of Antitrypsin in Puerperal Conditions. (Verwertbarkeit von Antitrypsinbestimmungen bei puerperalen Erkrankungen.) H. Thaler.

June 24, No. 25, pp. 875-910

139 Behavior of Bowel Wall as Osmotic Membrane in Inflammation. (Verhalten der Darmwand als osmotische Membran bei akuter und chronischer Enteritis.) E. Mayerhofer and E. Pribram.

140 Subperitoneal Cholecystectomy. (Zur Technik der subperitonealen Gallenblasenexstirpation.) R. Frank.

141 Treatment of Phlyctenular Ophthalmia. (Behandlung der phlyktänulären Augenerkrankungen auf Grundlage ihrer Aetiologie.) A. Schütz and R. Videky.

142 Trachoma Bodies. (Trachomkörperchen.) F. Gutfreund. Id. (Die sogenannten Trachomkörperchen vom Standpunkte der bisherigen Forschungen über die Aetiologie des Trachoms.) W. Reis.

143 Disturbances in Breathing in Tabes. (Atemstörungen bei Tabes dorsalis.) H. Eppinger and L. Hess.

144 Testing Color Vision in Railway Employés. (Zur Frage der bahnärztlichen Farbensinnprüfung.) J. Rosmanit.

135. Fibrillation of the Auricles and Irregular Pulse.—The electrocardiogram has thrown light on the mechanism of the absolutely irregular pulse; Rothberger and Winterberg think that they have discovered with it that the irregularity may be due to fibrillation of the auricles. This may subside at times, explaining the occasional lapses into normal rhythm. The fibrillation may extend throughout the whole heart, and may be the explanation for certain cases of sudden death in arrhythmia perpetua. The behavior of the auricles, whether they are beating, standing still or whether there is auricular fibrillation, is instructively shown in the electrocardiogram.

137. Aseptic Enteroanastomosis.—Moskowicz gives illustrations of his method of anastomosis with which the parts are sutured before the lumen is opened.

138. Antitrypsin Test with Puerperal Lesions.—Thaler announces that the antitryptic index is exceptionally high in cases of puerperal fever with an unfavorable outcome. He found the Fuld method of determining the trypsin simple, convenient and reliable, the increase in the antitryptic index proving a valuable aid for diagnosis of pregnancy and for the prognosis of puerperal affections.

Zentralblatt für Chirurgie, Leipsic

June 19, XXXVI, No. 25, pp. 889-928

145 Improved Illumination for Interior of Bladder. (Lichthebel bei Sectio alta.) Meisel.

Zentralblatt für Gynäkologie, Leipsic

June 19, XXXIII, No. 25, pp. 865-896

146 *Injection of Adrenalin to Prevent Hemorrhage while Clearing out the Uterus after Abortion. (Adrenalininjektion zur Vermeidung der Blutung bei Entfernung von Placentarresten nach Abort.) O. Grasser.

147 *Two Fatalities from Adrenalin in Gynecologic Operations. (Warnung vor Adrenalin.) N. N.

146. Adrenalin Injections to Prevent Hemorrhage in Curetting the Uterus.—Grasser has been using adrenalin for three years as a preliminary to clearing out the uterus after abortion when there is reason to anticipate much hemorrhage. He injects directly into the vaginal portion of the uterus 1 c.c. of physiologic salt solution, or of a 1 per cent. solution of cocain, to which two or three drops of a 1 per thousand solution of adrenalin have been added. The fluid is injected at two points, 1 or 2 cm. deep, and after waiting for ten minutes the curetting can proceed. He has never witnessed any injurious effect from the adrenalin in this concentration, while the saving of blood has been remarkable and there has been no tendency to after-hemorrhage.

147. Warning Against Adrenalin.—An anonymous writer relates two fatalities following injection of adrenalin into the vaginal portion of the uterus. The first patient was a woman of 47 with total prolapse of the uterus, the vaginal portion of which was much hypertrophied. Under chloroform the fluid, consisting of 1 c.c. of adrenalin solution in 10 c.c. of 0.8 per cent. salt solution, was injected at three points when suddenly retching occurred, respiration and pulse stopped, and it proved impossible to revive the patient. Ten days later the same syndrome with instant death occurred in a similar case, the patient being a robust woman of 33 with a hemorrhagic metritis and fibrous hypertrophy of the neck of the uterus requiring wedge resection. Some of the fluid used was injected into rabbits but showed no injurious by-effects. The dose was very small in these cases, not more than 0.0003 gm. of active adrenalin, while he has injected twice this amount in more than fifty other cases without mishap.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 13, XXX, No. 70, pp. 737-752

148 Intestinal Parasite in Snails Pathogenic for Man and Animals. (Presenza nelle feci e nell'intestino della lumaca di una nuova specie di pseudorabditte.) P. Barabaschi.

June 15, No. 71, pp. 753-760

149 *Serum as Hemostatic for Hemophilics. (Sull'uso del siero come emostatico nelle emorragie degli emofilaci.) L. Gangani.

June 17, No. 72, pp. 761-768

150 *Vaccination in Tuberculosis. A. Germani.

June 20, No. 73, pp. 769-784

151 Frequency of Relapses in Malaria after Operations or Venesection. (Le recidive malariche postoperative e da salasso.) P. Marogna.

June 22, No. 74, pp. 785-792

152 *The "Apex Beat." (Ictus cordis.) E. Caccianiga.

June 24, No. 75, pp. 793-800

153 Tuberculosis and Mediterranean Fever. M. Gioseffi.

149. Serum as Hemostatic in Hemophilia.—Gangani found it possible to arrest with serum threatening hemorrhages in a boy nearly four years old, whose maternal grandmother and paternal grandfather were hemophilic. Success was not complete until he supplemented the diphtheria antitoxin first used with fresh rabbit serum. He is convinced that failures in the experience of others are due to the fact that the serum used was too old, or modified in some way. The injection of 10 or 20 c.c. of serum should be repeated and pushed beyond the maximum generally accepted, he declares, and the fresher the serum the better the results. He injected 20 c.c. of antitoxin and 75 c.c. of rabbit serum in the course of eighteen days in the case reported.

150. Vaccination Against Tuberculosis.—Germani reviews the history of specific treatment and vaccination against tuberculosis and reports ten cases in which persons unusually exposed to tuberculous infection and predisposed were apparently saved by vaccination according to Maragliano's technic. This is the inoculation of the arm with a tuberculous vaccine to create a tuberculous abscess without living bacilli, and thus to activate the production of defensive antibodies. His experience has confirmed the harmlessness of the method and he urges its application, especially in industrial centers, as an important link in the chain of measures against the white plague.

152. The Apex Beat.—Caccianiga in examining 45 individuals, healthy or sick, found that the actual apex of the heart did not correspond with the location of the so-called apex

beat in a single instance. In four the distance between was over 2 cm., the interval being longest in those with some cardiac defect or disturbance. According to his experience, the apex beat is the impulse from a part of the ventricle above and to the right of the actual apex.

Policlinico, Rome

June, XVI, Surgical Section, No. 6, pp. 241-288

154 *Secreting Function of the Epithelial Cells of the Thyroid in Relation to Cervical Sympathectomy. (Funzione secretiva delle cellule epiteliali della tiroide, in rapporto alla simpaticectomia cervicale.) F. Casagli.

155 *Action of Iodin on Tuberculous Tissues. (Ricerche chimiche sull'azione dello iodio nei tessuti tubercolari.) D. Leonardo.

156 *Experimental Research on Anastomosis of the Vasa Deferentia. (Ulteriori ricerche sull'anastomosi del condotto deferente.) U. Dall'Acqua.

154. **Secretion in the Thyroid in Relation to Sympathectomy.**—Casagli describes experimental research on the behavior of the thyroid after sympathectomy. His experiments were made on rabbits five or six months old, treated by unilateral or bilateral cervical sympathectomy at one or two sittings. The results speak against the assumption of fibers in the sympathetic inhibiting secretion in the thyroid or with any direct influence on the secretory function of the gland. He is convinced, therefore, that there is no rational basis for functional suppression of the cervical sympathetic in treatment of exophthalmic goiter.

155. **Action of Iodin on Tuberculous Tissue.**—Leonardo discusses the history of iodin in treatment of tuberculous affections and describes microscopic examination of the tissues after local or general injections of an iodo-iodid solution in tuberculous and various other lesions—a total of 22 cases. His findings show that iodin has a different action on tuberculous tissue, but that this action differs according as the drug is injected locally or not. In general injections it has a general tonic effect, raising the opsonic index. When injected directly into a tuberculous focus it induces a local irritative process and consequently attracts to the spot both leucocytes and serum and thus a larger quantity of bactericidal and antitoxic substances.

156. **Anastomosis of the Vas Deferens.**—Dall'Acqua has been experimenting on 60 dogs and rabbits with 12 different methods of anastomosis between the stumps of the severed vas, comparing them and the ultimate outcome with similar research reported by others. The final results indicate that the best technic for reconstruction of the vas after it has been severed is by direct anastomosis by suture, using catgut No. 00.

Riforma Medica, Naples

June 14, XXV, No. 24, pp. 651-666

157 Action of Certain Toxins in the Blood in Trypanosomiasis. (Azione di alcuni veleni del sangue nelle tripanosomiasi.) G. Fusco.

158 Behavior of Glycogen in the Human Parathyroids in Disease. (Come si comporta il glicogene nelle paratiroide dell'uomo nelle malattie.) P. Guizzetti.

Hygiea, Stockholm

May, LXXI, No. 5, pp. 417-511

159 *Ascending Tuberculous Infection of the Kidneys. (Njurtuberkulos af urogen infektion.) G. Ekehorn.

160 Technic for Operations on the Kidneys. (Till operationstekniken för operationer å njuranra.) Id.

161 *Treatment of Laryngeal Tuberculosis. N. Arnoldson.

162 Iodized Catgut, especially for Operations on Stomach and Intestine. (Om användandet af jodkatgut, speciellt vid operationer å magsäck och tarm.) J. A. Hedlund.

159. **Ascending Tuberculosis of the Kidneys.**—Ekehorn has had 16 nephrectomies done in his service since 1906 and in 8 cases of tuberculous kidney the infection was evidently of urogenic origin. This may occur with a tuberculous affection of the epididymis or prostate or of the other kidney or of both. In one case a tuberculous epididymitis had existed for twenty-five years at least, although long comparatively latent. In the fifteenth year transient hematuria was observed for a time. Another patient had been operated on eleven years before for tuberculous epididymitis, and when symptoms of a renal process were detected the kidney was removed within six months, and the patient, a man of 45, seems in good health at present. Ekehorn's 5 cases of involvement of the second kidney teach the important lesson that in every case of renal tuberculosis in which the symptoms can be traced back for three, four or five years, extreme caution is necessary in estimating the indications for operative intervention. It is possible and even highly probable that the kidney apparently causing the disturbances, which is tender and palpable, is the kidney secondarily involved. If this kidney is removed the patient is left without any functioning kidney, as happened in one of the cases reported. The patient was a woman of 24 and autopsy revealed that the assumed sound mate was contracted, only 6 cm. long, and evidently the source of certain renal symptoms observed twelve years before. In another case there had been kidney symptoms for a number of years in a woman of 43. No operation was attempted but autopsy revealed an old tuberculous process in one kidney and pronounced dilatation of the ureter and kidney pelvis on the other side but no tuberculous involvement of them or of the kidney, although the ureter near the bladder showed microscopic round-celled infiltration.

161. **Treatment of Laryngeal Tuberculosis.**—Arnoldson deplores the general frequent neglect of laryngologic treatment in sanatoria, urging that specialists should be at hand to apply suitable treatment. He insists further on the necessity for more active measures, citing M. Schmidt's statement (1907) that since he has instituted more active measures his proportion of recoveries has increased from 2.5 to 20 per cent.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. Part VIII. Gout. By Prof. Dr. H. Strauss, Professor of the Third Clinic, Royal Charity Hospital, Berlin. Authorized American Edition. Translated Under the Direction of Nellis Barnes Foster, M.D., Associate Physician to the New York Hospital. Cloth. Pp. 70. Price, $1. New York: E. B. Treat & Co., 1909.

THE UNKNOWN LIFE AND WORKS OF DR. FRANCIS JOSEPH GALL. The Discoverer of the Anatomy and Physiology of the Brain. An Inaugural Address delivered before the "Gall Society" on May 15, 1909. By Bernard Hollander, M.D., Physician to the British Hospital for Mental Disorders. Paper. Pp. 31. Price, one shilling. Published for the Gall Society by Siegle, Hill & Co., 2, Langham Place, London, W.

CLINICAL TREATISES ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. By Prof. Edmund Von Neusser, M.D., Professor of the Second Medical Clinic, Vienna. Authorized English Translation by Andrew MacFarlane, M.D., Professor of Medical Jurisprudence and Physical Diagnosis. Part III. Angina Pectoris. Cloth. Pp. 71. Price, $1. New York: E. B. Treat & Co., 1909.

PHYSICIAN AND NURSE. An Idealization. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. An Address delivered before the Graduating Class of the Philadelphia School for Nurses, May 24, 1909. Paper. Pp. 22. Philadelphia School for Nurses, 2219 Chestnut St., Philadelphia.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of Herbert M. Stowe, M.D. Vol. V. The Practical Medicine Series. Cloth. Pp. 236, with illustration. Price, $1.25. Chicago: The Year Book Publishing Co., 1909.

THIRD INTERNATIONAL CONGRESS FOR SCHOOL HYGIENE. Paris, March 29-April 2, 1910. Announcement. Paper. Pp. 66. Secretary, M. C. Dr. Dufestel, 10 Boulevard Magenta, Paris. American Secretary, Dr. T. A. Storey, % College of the City of New York, New York City.

THE REPORT OF THE NATIONAL CONSERVATION COMMISSION AND A CHRONOLOGICAL HISTORY OF THE CONSERVATION MOVEMENT. Bulletin No. 4. Paper. Pp. 52. Issued by The Joint Committee on Conservation, 43 Wyatt Building, Washington, D. C.

ELECTRICITY IN GYNECOLOGY. By May Cushman Rice, M.D., Professor of Gynecology and Clinician in the Illinois School of Electrotherapeutics. Cloth. Pp. 159, with illustrations. Price, $1. Chicago: L. I. Laing & Co., 1909.

THIRTY-EIGHTH ANNUAL REPORT OF THE STATE BOARD OF EDUCATION Together with the Sixty-third Annual Report of the Commissioner of Public Schools of Rhode Island. January, 1908. Cloth. Pp. 154.

STATE HOSPITALS BULLETIN, NEW YORK. Published Four Times a Year by Authority of the State Commission in Lunacy. Vol. II, No. 1, May, 1909. Paper. Pp. 329. Price, 50 cents.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION, Held at Pensacola, April 1909. Paper. Pp. 289.

FESTSKRIFT VID TUBERKULOS-KONFERENSEN I Stockholm, 1909. Paper. Pp. 136, with illustrations. Utgifven af Svenska Nationalföreningen Mot Tuberkulos.

NICHOLAS SENN. An Appreciation, Published under the auspices of the Nicholas Senn Club of Chicago. By S. M. Wylie, M.D., Paxton, Ill. Cloth. Pp. 27.

INFINITY OR NATURE'S GOD. By F. J. Duggan, M.D., Grand Forks, N. D. Flexible Leather. Pp. 136. Price, $1.50.

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